

THE RIVER BASIN WATER QUALITY MANAGEMENT PLAN FOR KENTUCKY



"THE FISHERMAN" by Paul Sawyer through the courtesy of Paul Sawyer Galleries, Inc. of Frankfort, Kentucky

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INTRODUCTION

SALT RIVER BASIN LOCATION

River basins, unlike political districts or units whose boundaries are usually arbitrarily established, are easily identified. They can be defined as a single, permanent hydrological unit whose boundaries are further described by topographical and physiographical features. Thus, as shown in Exhibit 1.1m, the Salt River basin comprises approximately 3,000 square miles within the north central section of Kentucky.

Rising in Boyle County just west of Danville the Salt River flows northward for nearly 30 miles to the vicinity of Lawrenceburg. From there, the stream flows in a westerly direction about 95 miles to its confluence with the Ohio River at West Point, Kentucky, 26 miles downstream from Louisville and 351 miles upstream from the mouth of the Ohio River. Principal tributaries of the Salt River are Rolling Fork, Floyds Fork and Brashears Creek.

Exhibit 1.2m shows the Salt River Basin's relationship to the Bluegrass, Jefferson¹, and Lincoln Trail Area Development Districts which each account for portions of the Salt River Basin's total area.

PAST WATER QUALITY MANAGEMENT PLANNING

Water quality management planning efforts in the Commonwealth of Kentucky date back to the enactment, in 1950, of Kentucky Revised Statute Chapter 224, which authorized the creation, in the Department of Health, of the Water Pollution Control Commission. Over the past twenty-five years the State, through the Division of Water Pollution Control (now the Division of Water (Quality) in the Department for Natural Resources and Environmental Protection), has worked to enhance and to conserve the quality of the waters of the Commonwealth. Water quality management planning has intensified in the past five years in response to recent federal legislation, the most important of which have been the joint HUD-EPA Guidelines for Water Quality Management Planning (18 CFR 601) and the Federal Water Pollution Control Act Amendments of 1972 (Public Law 92-500).

After promulgation of the joint HUD-EPA guidelines in late 1971, the Commonwealth initiated, through the Division of Water Pollution Control and the Kentucky Program Development Office², its basin planning effort by developing the document entitled, "Program Design for Planning Water Quality Manage-

ment in Kentucky River Basins". This study, published in 1972, interpreted the guidelines applicable at that time and designed a program for the development of the Water Quality Management Plans for the ten major river basins in the state. Part One of that document presented a step-by-step procedure for preparing basin plans as well as identifying sources of data to be used. Part Two described Kentucky's river basins, established priorities for the planning, estimated the costs of preparing plans, and recommended an institutional arrangement for the development and management of the water quality planning process in Kentucky.

Also in 1972, the Department for Natural Resources and Environmental Protection, Division of Water Quality, in conjunction with the Office for Local Government, initiated the statewide program for developing comprehensive water and sewer plans for each of the area development districts. These documents, completed in June, 1973, presented a comprehensive inventory and analysis of existing water and sewer facilities, a land use inventory and analysis, a basic water quality inventory and analysis, and concluded with recommended implementation procedures relative to water and sewer facilitation and water quality management.

The Federal Water Pollution Control Act Amendments of 1972, the most comprehensive legislation in the field of water pollution control, was adopted in October, 1972. Although enacted during development of the comprehensive water and sewer plans, the legislation had a limited effect on plan development since the legislation was in the preliminary stages of interpretation, analysis and policy development and specific guidelines were unavailable. The first documents published, reflective of the new legislation, were the State Program Plan and State Continuing Plan. These documents, published annually, must be approved by the Environmental Protection Agency to allow the state to receive program grant funds and municipal construction grant funds and to be eligible to be granted authority to issue National Pollutant Discharge Elimination System (NPDES) permits. The plans present an overview of the entire state water pollution abatement procedures, and measure progress toward the attainment of pollution abatement goals outlined in the Act.

Realizing the water and sewer plans did not satisfy the 303(e) basin planning requirements specified by EPA in mid-1973, the State began a study to identify the additional effort necessary to complete the 303(e) planning initiated in the water and sewer studies. The results of that study, the document entitled, "Water Quality Planning in the State of Kentucky", was published in May, 1974. This publication included a detailed analysis of the area development districts' water and sewer facility plans as they relate to the requirements in 303(e) basin planning and a scope of work which outlines Federal requirements under 40 CFR 130 and 131 for river basin planning.

¹In 1973, the Jefferson Area Development District merged with the Falls of the Ohio Metropolitan Council of Governments to form the Kentuckiana Regional Planning and Development Agency.

²The Kentucky Program Development Office (KPDO) has been abolished and its responsibilities are now within the Office for Local Governments (OLG).

Planning in conjunction with 208 Areawide Management Planning has been undertaken in two areas. The Louisville 208 study has received area and agency designation. The area is Jefferson County plus the areas which lie within the Floyds Fork and Harrods Creek watersheds, which includes portions of Oldham, Shelby, Spencer and Bullitt Counties. The agency is the Kentuckiana Regional Planning and Development Agency (KIPDA). KIPDA anticipates funding approval by June 30, 1975.

The other 208 planning area is the Cincinnati SMSA. This area has been designated as a 208 planning area in the three involved states of Ohio, Kentucky, and Indiana. The agency is the Ohio-Kentucky-Indiana Council of Governments and the Kentucky portion of this area has been designated as Boone, Campbell and Kenton Counties.

Other areas in the state which have comprehensive planning underway are the Huntington-Ashland SMSA and the Lexington SMSA. These areas are being studied by the Corps of Engineers who will develop plans which should satisfy 208 planning requirements because of the comprehensive nature of the plans.

Section 201 facilities planning is currently being undertaken for 187 municipalities in the State of Kentucky. It is intended for the information from these facilities plans to interface with the river basin plans and to structure the Step 2 and Step 3 construction grants in an orderly manner so that the construction grant program can proceed on a priority basis.

All past and current water quality management planning, particularly the document, "Water Quality Planning in the State of Kentucky", sets the stage and provides critically needed input to this state-wide river basin planning effort.

PROJECT PURPOSE

Section 303(e) of the Federal Water Pollution Control Act Amendments of 1972 requires the development of a "state continuing planning process." This planning process is intended to be the mechanism for establishing a state's strategy for pollution abatement. Foremost of the planning requirements under Section 303(e) is development of basin-wide plans for the 267 major and minor river basins that constitute all navigable waters of the United States. These river basin plans are to be prepared in accordance with the regulations issued by the Federal Environmental Protection Agency (40 CFR 130 and 131).

The purpose of preparing basin plans is to provide the information the state needs to make centralized, coordinated water quality management decisions, to provide strategy guidance for developing the State Plan required under Section 106 of the Act, and to encourage water quality objectives that take into account overall state policies and programs, including those for land use and other related natural resources. Of critical importance is the assurance that the completed basin plan will provide a valid and reliable basis upon which the state can implement and maintain its municipal wastewater facility priority construction program and the Federal EPA

can implement and maintain its National Pollutant Discharge Elimination System (NPDES) program. Adequate fulfillment of river basin planning requirements is also necessary for the state to maintain eligibility to receive program grant funds and municipal construction grant funds.

SALT RIVER BASIN



EXHIBIT 1.1m

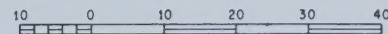
BASIN LOCATION



LEGEND

KENTUCKY DRAINAGE BASINS

- 1 BIG SANDY
- 2a LOWER CUMBERLAND
- 2b UPPER CUMBERLAND
- 3 GREEN RIVER
- 4 KENTUCKY RIVER
- 5 LICKING
- 6 LITTLE SANDY
- 7 MISSISSIPPI
- 8 OHIO MINOR TRIBUTARIES
- 9 TENNESSEE
- 10 TRADEWATER
- 11 TYGART'S CREEK
- 12 SALT RIVER



GRAPHIC SCALE IN MILES

Base Data: U. S. Geological Survey

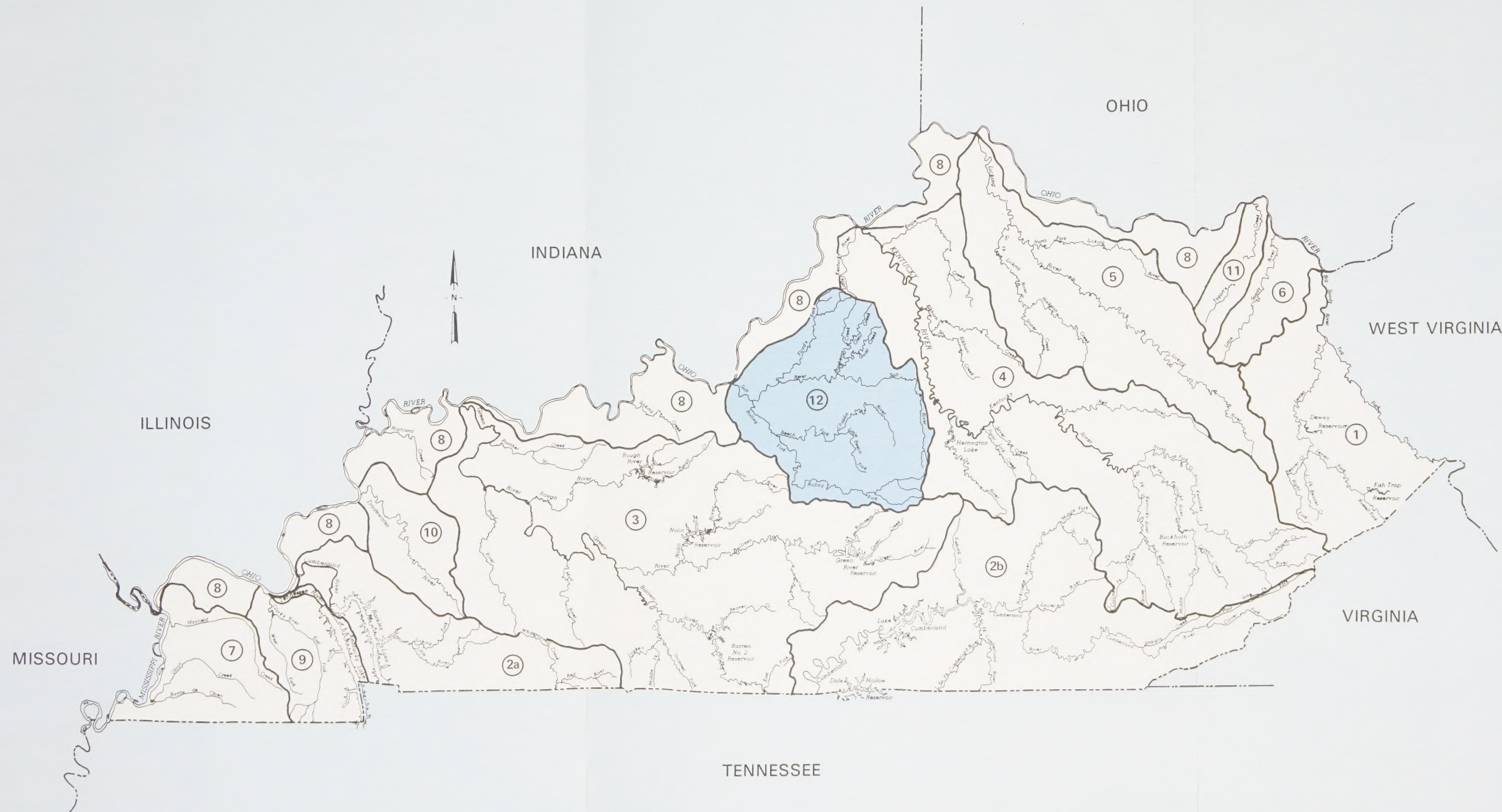
KENTUCKY WATER QUALITY MANAGEMENT PLAN

Prepared for Division of Water Quality

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AND ENVIRONMENTAL PROTECTION

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SALT RIVER BASIN



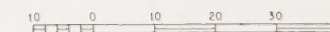
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BASIN LOCATION

LEGEND

KENTUCKY DRAINAGE BASINS

- | | |
|----|------------------------|
| 1 | BIG SANDY |
| 2a | LOWER CUMBERLAND |
| 2b | UPPER CUMBERLAND |
| 3 | GREEN RIVER |
| 4 | KENTUCKY RIVER |
| 5 | LICKING |
| 6 | LITTLE SANDY |
| 7 | MISSISSIPPI |
| 8 | OHIO MINOR TRIBUTARIES |
| 9 | TENNESSEE |
| 10 | TRADEWATER |
| 11 | TYGART'S CREEK |
| 12 | SALT RIVER |



GRAPHIC SCALE IN MILES

Base Data: U. S. Geological Survey

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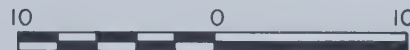


EXHIBIT 1.2m

AREA DEVELOPMENT DISTRICTS & MAJOR TRIBUTARIES

LEGEND

-  ADD Boundary
-  Major Tributary



SCALE IN MILES

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SALT RIVER BASIN

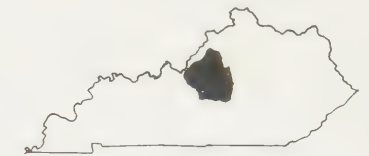


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CHAPTER II: SALT RIVER BASIN

SUMMARY

The Salt River Basin is comprised of the Kentucky portion of the Kentuckiana Regional Planning and Development Agency and the Lincoln Trail and Bluegrass Area Development Districts as depicted in Exhibit 1.2m, Chapter I, Introduction. Section 303(e) of the Federal Water Pollution Control Act Amendments of 1972 requires the development of basin-wide plans for the ten river basins in Kentucky including the Salt River Basin. The purpose of preparing river basin plans is to coordinate municipal and rural water quality management plans including the 201 Facilities Plan which is performed for eligible municipal and sewer district areas, the 208 Areawide Management Plans for complex metropolitan areas such as the Louisville SMSA, and other point and nonpoint sources of wastewater discharge that are located in the rural areas not covered by the 201 and 208 urban area planning efforts. Of critical importance is the assurance that the completed basin plan will provide a valid and reliable basis upon which the state can implement and maintain its municipal wastewater facility construction grant program and the Federal EPA can implement and maintain its National Pollutant Discharge Elimination System (NPDES).

The Salt River Basin, which has a 1975 population of 376,371, is not typically an industrialized area. The principal industries are the distillers and manufacturers of whiskey and bourbon. The Floyds Fork and Pond Creek areas in Jefferson County account for 75.2 percent of the nonagricultural employment in the Salt River Basin. Principal industries are scattered throughout the basin, but tend to be located near major towns and cities. Therefore, major industrial and municipal wastewater sources are generally dispersed throughout the basin near the major towns and cities except for Jefferson County. In the Salt River Basin, there are fifteen municipal wastewater treatment facilities, eight major industrial facilities, and sixty-six other major facilities which primarily serve subdivisions, sewer districts, and institutions. The numerous subdivisions and small incorporated areas in the Pond Creek and Floyds Fork areas of Jefferson County are typically served by package treatment plants and are considered significant wastewater sources.

Streams in the Salt River Basin generally have zero or near zero flow at some time of the year which contributes to problems with organic wasteloads and sediment, and poor water quality can be expected downstream from wastewater sources. The limited availability of groundwater and the "Knob" topography are factors causing extremely low flow conditions during the dry months of the year. Major water quality problems occur in the highly populated Floyds Fork and Pond Creek areas of Jefferson County. The entire length of Pond Creek consistently revealed violations relating to dissolved solids, fecal and total coliform, and dissolved oxygen. Receiving streams near Jeffersontown, Middletown, and the Cedar Creek area exhibited high total coliform, dissolved solids, and pH levels. Dissolved oxygen violations downstream from existing major towns and

communities which occur during low flow conditions are considered the major water quality problems in areas outside of Jefferson County. Because of these water quality conditions, the majority of the 37 stream segments comprising the Salt River Basin are classified as water quality segments, indicating that treatment levels better than secondary treatment (generally applied by existing facilities) will be required to meet water quality standards.

The Basinwide Management Plan (Chapter V) establishes: (1) wasteload characteristics for water quality segments, (2) municipal water quality needs and priorities, (3) compliance schedules for industrial, domestic, and nonpoint sources, (4) a water quality monitoring and surveillance program, (5) the relationship and coordination of the basin plan with other plans, and (6) land use policies and controls which may affect the basin plan.

The municipal and sewer district facilities eligible for federal construction grants are as follows:

Existing Facilities (To Be Improved)	Proposed Facilities (To Be Constructed)
Bardstown	Silver Heights S.C.D.
Bloomfield	Maple Grove S.C.D.
Eminence	Southern Acres S.C.D.
Harrodsburg	West Point
Jeffersontown	Smithfield
Lawrenceburg	Hollow Creek
Lebanon	Loretto
Lebanon Junction	Fairfield
Mt. Washington	New Haven
Okolona	Simpsonville
Perryville	Willisburg
Radcliff	Bradfordsville
Shelbyville	Floydsburg
Shepherdsville	Pleasureville
Springfield	Alton S.C.D.
Taylorsville	
Hollyvilla S.C.D.	
Minor Lane Heights	
Woodland Hills	

EPA requires that existing facilities meet water quality standards by July, 1977.

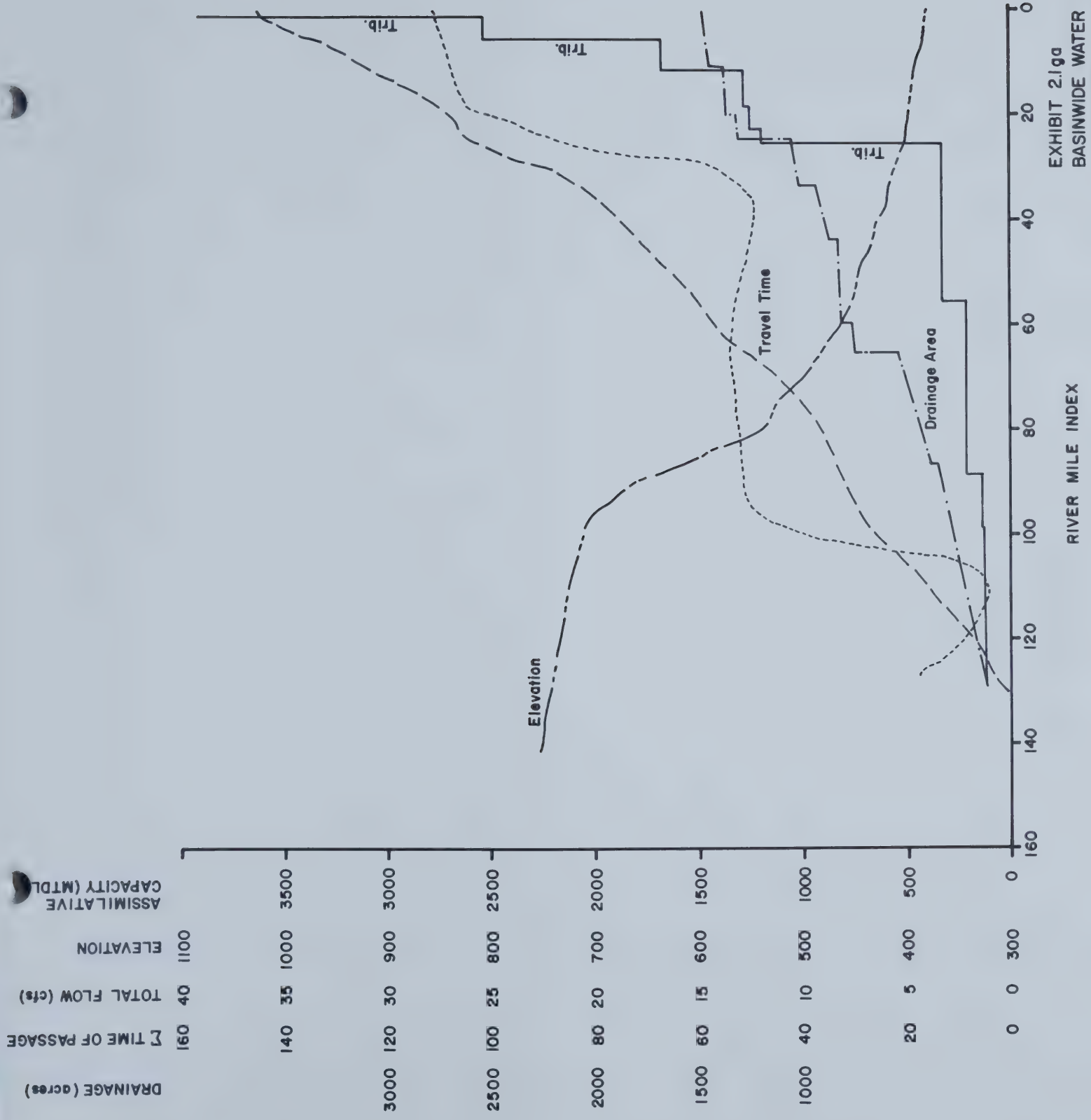
There is only one water quality monitoring station in the Salt River Basin. This plan recommends five permanent stations for (1) Pond Creek (Jefferson County), (2) Mill Creek (Army Road), (3) Salt River (Shepherdsville - existing station), (4) Rolling Fork (Lebanon Junction), and (5) Floyds Fork. Secondary or roving stations to periodically monitor other stream segments are also recommended to insure that water quality standards are being met by treatment facilities.

The Salt River Basin Plan has been coordinated with the recently completed Louisville 201 Facilities Plan and the proposed Louisville 208 Areawide Management Plan as well as other 201 Facilities Plans which have been initiated for other municipalities in the Salt River Basin. The Louisville 201

Facilities Plan recommends the elimination of existing wastewater treatment facilities in the Pond Creek and Floyds Fork areas of Jefferson County by 1995. Facilities not eliminated by 1980, such as the numerous package treatment plants in the western Pond Creek area and all of the Floyds Fork area, will have to upgrade their treatment processes until the proposed regional system eliminates them. If facilities will be eliminated before 1985, inexpensive temporary improvements such as lagoons or other selected tertiary treatment methods should be acceptable. Package treatment plants which will be utilized from 1985 to 1995 will be required to meet advanced wastewater treatment levels, and simple lagoons following extended aeration plants will generally not be acceptable. For segments of streams requiring high levels of treatment, aerated lagoons and lagoons followed by microstrainers or other filtration processes would probably meet water quality standards. However, other treatment alternatives should be carefully evaluated before any treatment method is selected.

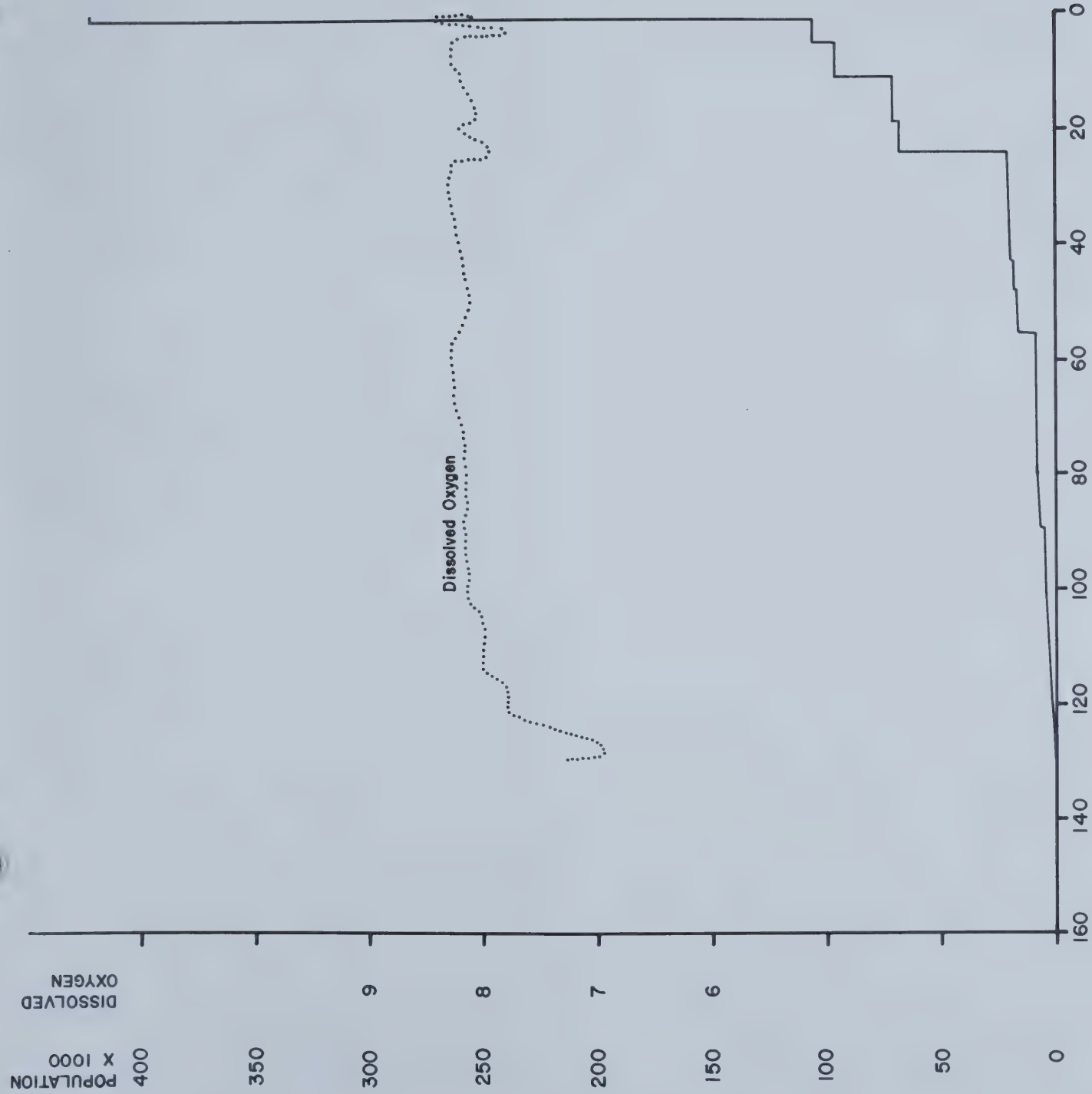
Presently, there are no major impoundages in the Salt River Basin to provide for supplemental flow during low flow conditions. However, the Corps of Engineers has begun construction of a Taylorsville Reservoir which will have important future ramifications such as augmentation of the low flows and land use changes in the Taylorsville area.

The Salt River Basin planning effort has involved the public through the news media, meetings with public officials, and workshops. Invitations to the workshops were extended to citizens, interested groups, public agencies, and public officials. A public hearing to present the plan and receive final comments was also conducted. Through the workshops and public hearings, public input relating to problem identification, municipal construction grant priorities, compliance schedules, and planning coordination were obtained. All questions, critiques, and inputs were addressed at either the workshops or public hearing and the plan was modified to reflect the public interest where justified.



POPULATION
X 1000

DISSOLVED
OXYGEN



BACKGROUND FOR THE PLAN

INTRODUCTION

Chapter III provides a general description of the Salt River Basin through identification and analysis of the individual geophysical, social, economic and environmental components that characterize the basin. These components are in continuous interaction and therefore form a dynamic system of constant change. Anticipated changes within each component will be analyzed and projected through the year 1995 with midpoint reporting at years 1970, 1975, 1980 and 1995.

Information contained within this chapter and in Appendices A and B will supply base data required for subsequent estimates of future waste loads from both point and nonpoint sources and development of alternative abatement plans. Background data in Chapter III will be reported for the Salt River Basin and for the 15 counties which comprise the total basin study area. Appendices A and B will supply a more thorough disaggregation of background data by river basin, county, and stream segments.

GEOPHYSICAL DESCRIPTION

Because a river basin is a natural formation, related directly to the Earth's formation, it is important to understand the geological and climatological forces which have interacted over thousands of years to create its basic form. A general understanding of this historical process will assist in the explanation and description of the various physiographic regions, patterns of rivers and streams, distribution of groundwater, and relative quantities of mineral resources.

Climate

Climate is of paramount importance in any study of water occurrence and use. Identification and description of significant climatological factors primarily involve temperature and humidity, and the effect these parameters have upon the intensity and duration of precipitation within the study area.

More specifically, a description of climatological factors is important in these respects:

1. Surface water quantities and behavior are closely related to the intensity and duration of rainfall.
2. Groundwater quantities and levels are also dependent upon intensity and duration of precipitation, as well as other climatological factors.
3. Climatological factors, specifically precipitation duration and intensity, also significantly influence the potential for nonpoint contamination. Nonpoint contamination sources include surface runoff

associated with agricultural, construction and industrial activity, urban development, etc.

Generally, the climate of Kentucky and the Salt River Basin is uniformly temperate. The climate elements of sunlight, heat, moisture and winds are all in moderation without prolonged extremes. Rainfall is abundant and fairly regular throughout the year, usually as short showers. Heavy snowfalls are rare. The seasons differ markedly, yet warm to cool weather prevails with extremes of heat and cold occurring only in short spells.

The mean annual rainfall or total precipitation within the Salt River Basin ranges from 42-49 inches. Late summer is normally the driest part of the year. During this period short-term droughts are not uncommon. About half the annual rainfall occurs during the warm-season months of April through September. Snowfall varies from year to year; however, the average annual quantity of snow is about 10 inches. Snowfalls are usually only a few inches and seldom cover the ground for more than a few days. Thunderstorms may occur at anytime, but are most frequent between March and September.

Differences in elevation and terrain within the Salt River Basin have little effect on temperature or weather in general. More important are the seasonal variations that occur throughout the year. Winters are moderately cold and summers are quite warm. January is typically the coldest month, with an average temperature of approximately 35 degrees. Temperatures as low as -20° Fahrenheit have been recorded within the study area; however, temperatures less than 0 degrees are rare. In summer, July is usually the warmest month. Temperatures during the month average about 78 degrees. During spring and fall, temperatures tend to remain constant and comparatively mild.

Physiography

Within Kentucky, there are six major physiographic or natural regions which can be described by the geology, topography and soil characteristics unique to each region. Of the six principal physiographic regions of the state, three comprise the Salt River Basin: the Bluegrass, Knobs and Pennyroyal regions. Exhibit 3.1m illustrates the distribution of each region throughout the basin while 3.2t provides a descriptive summary of each region.

The Bluegrass Region - The Bluegrass comprises about three-fourths of the Salt River Basin; however, within the Bluegrass region are three distinctive subregions. The Inner Bluegrass subregion accounts for a small portion located in the extreme eastern sector of the basin. It is characterized by gently rolling and undulating surfaces, and with its numerous tree-shaded pastures is more like a park than a farmscape. Separating the Inner Bluegrass from the Outer, and in distinct contrast to both, are the Hills of the Bluegrass which form a north-south corridor within the east central section

Exhibit 3.2t GENERAL CHARACTERISTICS OF THE PHYSIOGRAPHIC REGIONS IN THE SALT RIVER BASIN

Physiographic Region	Topography	Drainage		Geology**		General Groundwater Quality*		
		Run-off	Internal	Formation	Type	Hardness (ppm)	Chloride (ppm)	Sulphate (ppm)
BLUEGRASS								
Inner Bluegrass	Undulating	Medium	Medium	m0	ls, sh	250-600	2-75	0.4-100
Hills of the Bluegrass	Hilly	Very Rapid	Slow	u0	ls, sh	250-600	2-75	150+
Outer Bluegrass	Undulating	Med-Rapid	Medium	u0	ls, sh	250-600	2-75	0.4-100
KNOBS	Hilly Level	Very Rapid Slow	Very Slow Slow	S & D S & D	sh, ls sh, ls	250-600	2-75	0.4-100
PENNYROYAL								
Eastern Pennyroyal	Rolling	Med-V.Rap	Med-Slow	M	ls, sh	125-225	0-10	0.1-0.3
Western Pennyroyal (Limestone)	Undulating	Medium	Medium	M	ls, lo	125-225	0-10	0.1-0.3
Western Pennyroyal (Ss.-Sh.-Ls.)	Undulating	Med-Rapid	Slow-Med	M	ss, sh, ls	125-225	0-10	0.1-0.3

*Hopkins, Herbert T. 1966. Fresh-Saline Water Interface Map of Kentucky, Kentucky Geologic Survey.

LEGEND**

GEOLOGY

Formation

Type

m0 = Middle Ordovician

ls = Limestone

u0 = Upper Ordovician

sh = Shale

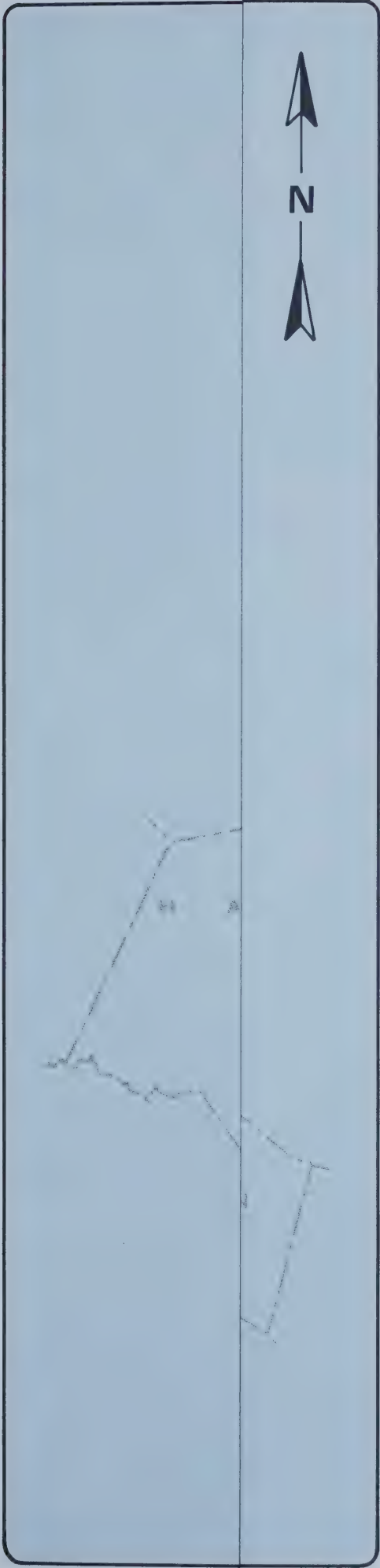
S = Silurian

ss = Sandstone

D = Devonian

lo = Loess

M = Mississippian



SALT RIVER BASIN



EXHIBIT 3.1m

PHYSIOGRAPHIC REGIONS

LEGEND

1. Inner Bluegrass
2. Hills of the Bluegrass
3. Outer Bluegrass
4. Knobs Region
5. Eastern Pennyroyal
6. Western Pennyroyal



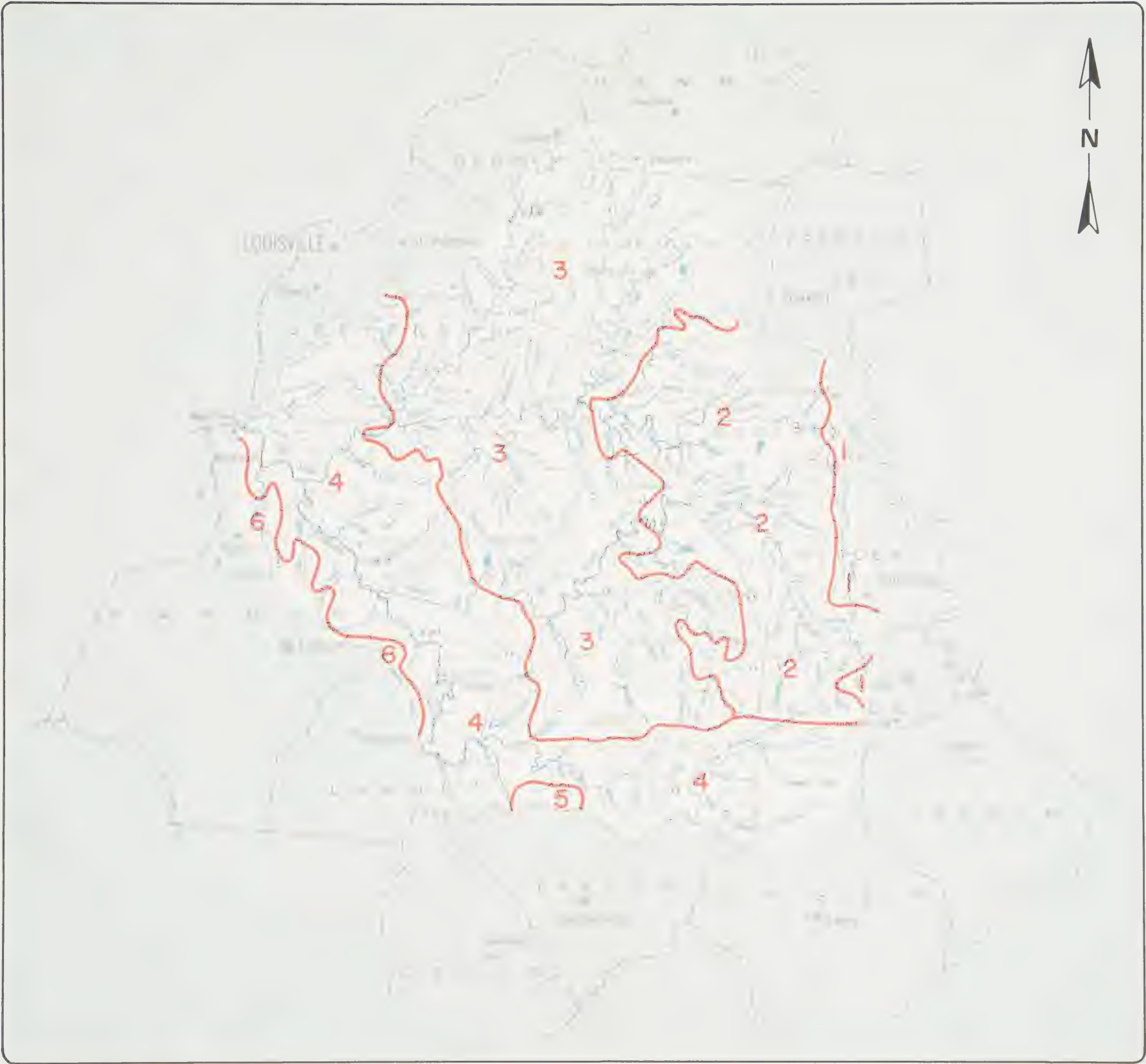
SCALE IN MILES

KENTUCKY WATER QUALITY MANAGEMENT PLAN

Prepared for Division of Water Quality
KENTUCKY DEPARTMENT FOR NATURAL RESOURCES
AND ENVIRONMENTAL PROTECTION

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SALT RIVER BASIN

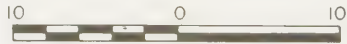


EXHIBIT 3.1m

PHYSIOGRAPHIC
REGIONS

LEGEND

- 1. Inner Bluegrass
- 2. Hills of the Bluegrass
- 3. Outer Bluegrass
- 4. Knobs Region
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of the Basin. The terrain is hilly, with winding ridges and valleys, and steep slopes that average 25-30 percent, leaving few areas of level land.

The Outer Bluegrass comprises the northwestern quadrant of the basin. In many respects it resembles the Inner but is not as compact nor as consistently developed. The surface is more rolling and less uniform.

The Knobs Region - This region is named for its conical and flat-topped hills called Knobs. The Knobs region forms a narrow crescent generally aligning with the southern and western perimeter of the basin and the Bluegrass region. Near the Bluegrass the terrain is flat to rolling with scattered knobs and wide valleys, while the outer margin is rough.

The Pennyroyal Region - The Pennyroyal Region is one of the largest of the six physiographic regions comprising the state. Several unique subregions have been identified: the Western Pennyroyal (Sandstone-Shale-Limestone Area), Western Pennyroyal (Limestone), and Eastern Pennyroyal. Of the three subregions, only the Eastern Pennyroyal is included within the basin where it appears in the extreme southwestern corner. It is set upland, higher than the rest of the region and has a greater variation of relief. Most of the terrain is rolling, some is undulating; in places it is hilly or karsted, and nearby streams may be rough or precipitous.

Geology

Geology is the study of the earth, its composition, structure, and history. More specifically, geology is the study of rock type, formation, and location. An identification and description of significant geological characteristics is of value in the development of this study for several reasons:

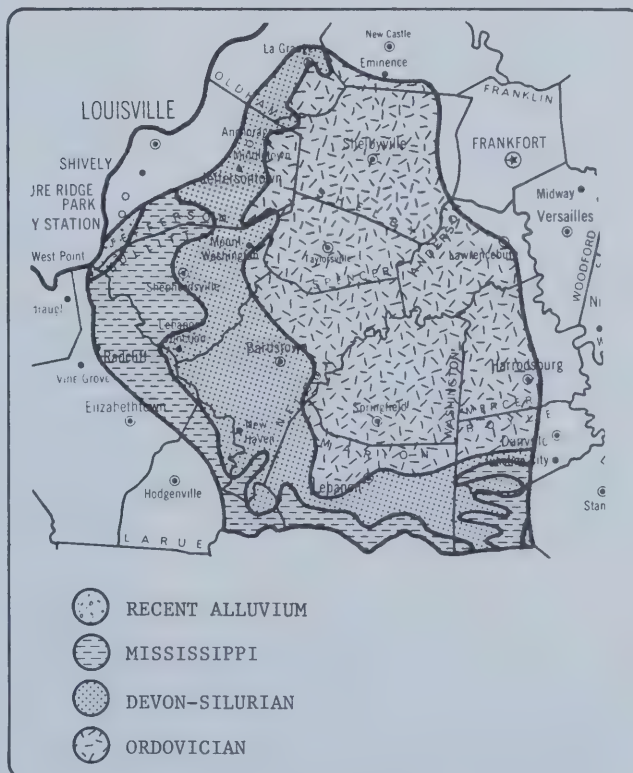
1. Geological characteristics exert a significant influence upon the efficiency with which septic tanks can be utilized as a sewage disposal technique. The primary geological factors affecting septic tank utilization are bedrock type and depth.
2. Geological characteristics, specifically bedrock type and depth, tremendously influence the construction costs involved in providing collection, transmission, and sewage disposal facilities. Shallow depths to bedrock can increase these costs severalfold.
3. Geological characteristics significantly influence groundwater quantities and levels since groundwater resources are closely related to the permeability and porosity of materials underlying an area. The greater the air space in a rock type or composition, the larger the volume of water that can be stored. In addition, groundwater quantities and levels are closely related to the potential for infiltration of groundwater into sewerage systems.

Geologic materials exposed on the land surface within the Salt River Basin range from the oldest formation (Ordovician) to the youngest or most recent (Recent Alluvium). The distribution of geologic formations throughout the basin can best be visualized with the aid of the small key map provided below. As mentioned previously, a close relationship exists between the physiographic regions discussed in the previous section and geologic regions. Hence, the description of geologic formations will be tied directly to the four principal physiographic regions represented within the Basin.

The Bluegrass Region - This region is geologically described as a central lowland characterized by the outcrop of Ordovician and Silurian strata, to a large extent limestone. The Bluegrass is famous for its fertility, the soils being residual and derived from the decay of limestones and shales. The Lexington limestone, underlying the Inner Bluegrass, is particularly rich in calcium phosphate. The region is in the youthful stage of dissection; hence, there are relatively large areas of flat upland and a minimum of soil erosion.

The Outer Bluegrass is underlain by a higher proportion of shale and is consequently more eroded. It contrasts with the Hills of the Bluegrass sub-region whose Eden Shale belt on one side, and the hilly country of the Knobs is on the other. In the northern part a narrow belt was involved in the Pleistocene glaciation. However, the amount of drift is small. The Richmond in the east and south has large amounts of limestone and shales. Together with the extensively developed Crab Orchard shales these show similarities with the

GEOLOGIC REGIONS WITHIN THE SALT RIVER BASIN



Eden Shale Belt and the Knobs Region. The extensive limestones of the Mid-Silurian and Mid-Devonian periods ally this subregion with the larger Bluegrass Region.

The Hills of the Bluegrass subregion corresponds roughly with a geologic region known as the Eden shale belt. This region, with its dominance of shale and hence more rapid gullying, is one of inferior soil, steep slopes and rapid soil wash and compares unfavorably with either the Outer or Inner Bluegrass subregions. Tributary valleys are generally narrow and V-shaped and divides are narrow. Where capped with sandstone, they are more rounded. When kept under cultivation these steeper slopes erode rapidly, the shale is removed and slabs of the intercalate limestones are left scattered over the surface.

The Inner Bluegrass subregion constitutes approximately 30 percent of the Bluegrass region and is essentially defined by the outcrop of the Lexington and Cynthiana limestones. In its typical development the Inner Bluegrass is a region of exceptional agricultural quality due to both topographic character and fertility of the residual soil which is extremely rich in phosphates. The gently rolling topography has held soil erosion to a minimum and a thick residual soil has accumulated which has considerable local variation in character. The Brannon Limestone produces a cherty clay soil and gullies easily.

The immediate vicinity of large streams is marked by a mature topography with steep slopes and narrow divides which broaden as the river is left behind. In the area of the High Bridge Outcrop these massive limestones have produced the rugged landscape of the Kentucky River gorge country. Streams occupy narrow meandering gorges bordered by vertical cliffs.

The Knobs Region - The Knobs region forms a belt of more or less conical hills rising above and bordering the Bluegrass region. This region can be defined on a two-fold basis: (1) the area of conical hills representing remnants of the upland behind Muldraugh's Hill (on the south and west) and the Pottsville Escarpment (on the east); (2) the outcrop principally of the Ohio shale (upper Devonian black shale) and New Providence and Waverly (lower Mississippian) shales and soft sandstone. It is a region of relatively poor soil, steep slopes and rapid erosion.

The Pennyroyal Region - In its typical development, the Pennyroyal region is a little dissected, gently rolling upland, underlain mainly by the St. Louis limestone. Limestone sinks are abundant. Drainage is more or less dismembered, the smaller surface streams finding underground outlets by way of the surface sinks. The soil is deep and residual derived from the decay of the St. Louis and younger limestones.

Soils

Soils are accumulations of particles of broken and weathered rocks and minerals, and decaying organic matter at the earth's crust. Soils are the product of five soil-forming factors: climate, living organisms (primarily vegetation), parent materials, topography, and time. Differences in

soil types are the result of variations in these five factors. Various combinations of the factors, specifically parent material, topography, and time of exposure to soil-forming factors, are readily expressed by dividing the study area into major soil association areas. These major soil associations are illustrated in Exhibit 3.3m and described in the technical discussion.

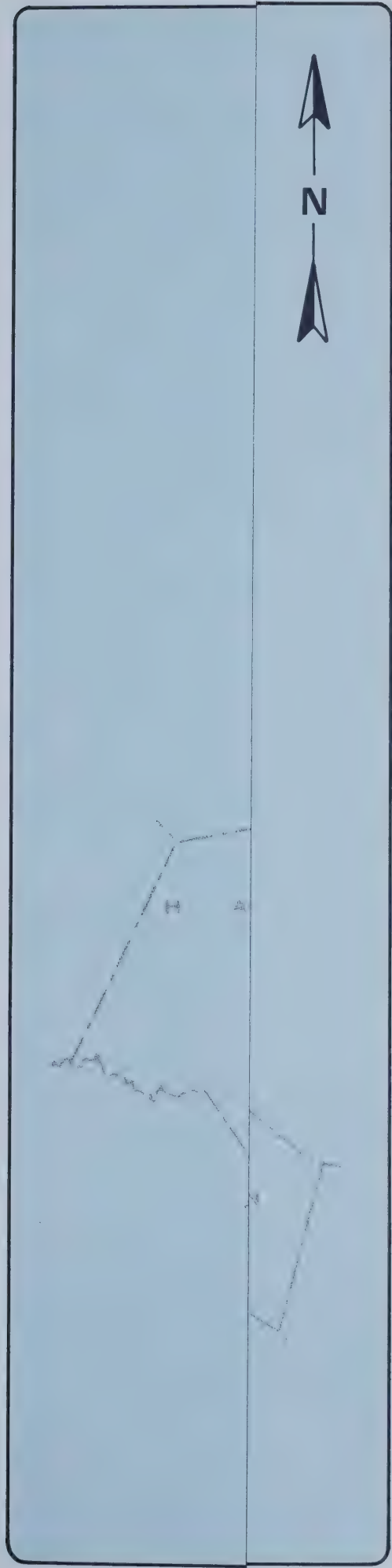
An identification and description of significant soil characteristics is essential to proper development of several areas of this study. Adequate interpretation of soil types and associations, in regard to the general characteristics of erodibility, depth to bedrock, slope, drainage, and permeability, is essential to determining the influence the various soil types and associations will exert upon critical subelements of this study. Of particular importance in the soils' analysis are the following:

1. The construction cost of providing sewer service can vary significantly according to soil types encountered. Of primary importance in this regard are depth to bedrock, slope, stability, and the deteriorating effect soil types may exert on the collection and transmission network.
2. The permeability of a given soil is of particular importance regarding its potential for septic tank utilization as a means of sewage disposal. Those soil types and associations possessing particularly unfavorable characteristics for septic utilization are of primary concern.
3. Erodibility, slope, drainage, and permeability are all factors significantly affecting the amount of storm water runoff during periods of moderate to heavy rainfall. This is of particular importance in assessing the quantity and quality of streamflows in the study area.

The Soil Conservation Service of the U. S. Department of Agriculture has inventoried the major soil associations within the state and has analyzed the distinctive characteristics of each. From this analysis, a determination was made of their suitability for septic tank absorption fields, land application of wastewater, and potential for sediment runoff. This information appears in Exhibit 3.3t and 3.3m illustrates the general location of each soil association with the basin.

Columns 1 and 2 of Exhibit 3.4t indicate the identification number and soil association name respectively, as they appear in Exhibit 3.3m.¹ The percentage of the total association represented by each principal soil type is provided in Column 3; the dominant slope percentage is shown in Column 4. An interpretation of each soil's potential as a septic tank absorption field was derived from the

¹A detailed description of each soil association is provided within the soil surveys of the Bluegrass and Lincoln Trail Area Development Districts and the Kentuckiana Regional Planning and Development Agency.



SALT RIVER BASIN



EXHIBIT 3.3m

SOIL ASSOCIATIONS & INTERPRETATIONS

LEGEND

1. Beasley-Nicholson-Fairmont
 2. Lowell-Shelbyville-Fairmont
 3. Crider-Corydon
 4. Nicholson-Crider
 5. Zipp-Robertsville
 6. Wheeling-Weinbach-Huntington
 7. Garmon-Weikert-Trimble
 8. Nolin-Elk-Newark
 9. Eden-Nicholson
 10. Pembroke-Beasley-Corydon
 11. Rockcastle-Colyer-Trappist
 12. McGary-Huntington
 13. McGary-Markland-Lawrence
 14. Garmon-Crider-Baxter
 15. Huntington-Lawrence-Newark
 16. Beasley-Fairmont-Pembroke
 17. Lowell-Fairmont-Shelbyville
 18. Eden-Lowell
 19. Eden
 20. Lowell-Mercer-Faywood
 21. Maury-McAfee
 22. Garmon-Rockcastle-Colyer
- Moderate
Severe



SCALE IN MILES

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SALT RIVER BASIN

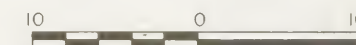


EXHIBIT 3.3m

SOIL ASSOCIATIONS & INTERPRETATIONS

LEGEND

1. Beasley-Nicholson-Fairmont
 2. Lowell-Shelbyville-Fairmont
 3. Crider-Corydon
 4. Nicholson-Crider
 5. Zipp-Robertsville
 6. Wheeling-Weinbach-Huntington
 7. Garmon-Weikert-Trimble
 8. Nolin-Elk-Newark
 9. Eden-Nicholson
 10. Pembroke-Beasley-Corydon
 11. Rockcastle-Colyer-Trappist
 12. McGary-Huntington
 13. McGary-Markland-Lawrence
 14. Garmon-Crider-Baxter
 15. Huntington-Lawrence-Newark
 16. Beasley-Fairmont-Pembroke
 17. Lowell-Fairmont-Shelbyville
 18. Eden-Lowell
 19. Eden
 20. Lowell-Mercer-Faywood
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- Moderate
Severe



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Exhibit 3.4t SELECTED SOIL INTERPRETATIONS - SALT RIVER BASIN

1 Map No.	2 Soil Association	3 Percent of Association	4 Dominant Slope %	5 Septic Tank Absorption Field ¹	6 Land Application of Wastewater ²	7 Hydrologic Soil Group ³	8 Potential Sediment Run-Off ⁴
1	Beasley Nicholson Fairmont	35	6-12	Severe (1)	Moderate (1)	C	Medium
		22	2- 6	Severe (1)	Severe (1)	C	Medium
		20	20-30	Severe (1, 5, 6)	Severe (2)	D	High
2	Lowell Shelbyville Fairmont	35	2- 6	Severe (1)	Moderate (1)	C	Low
		30	2- 6	Moderate (1)	Slight (1)	B	Low
		12	12-50	Severe (1, 5, 6)	Severe (2)	D	High
3	Crider Corydon	60	0-12	Moderate (5)	Slight	B	Low
		15	12-30	Severe (1, 5, 6)	Moderate (3)	C	Medium
4	Nicholson Crider	50	2- 6	Severe (1)	Severe (1)	C	Medium
		30	2- 6	Slight (5)	Slight	B	Low
5	Zipp Robertsville	55	0- 2	Severe (1, 4)	Severe (1)	D	Medium
		20	0- 2	Severe (1, 4)	Severe (1)	D	Medium
6	Wheeling Weinbach Huntington	10	0-12	Moderate (5)	Slight	B	Medium
		20	0- 4	Severe (1)	Severe (1)	C	Medium
		25	0- 4	Severe (4)	Severe (4)	B	Low
7	Garmon Weikert Trimble	30	30-50	Severe (5, 6)	Severe (2)	C	High
		25	30-50	Severe (5)	Severe (2)	D	High
		18	12-20	Severe (5)	Slight	B	Medium
8	Nolin Elk Newark	25	0- 4	Severe (4)	Severe (4)	B	Low
		20	2- 6	Slight	Slight	B	Low
		20	0- 2	Severe (4)	Severe (4)	C	Medium
9	Lowell Fairmont	30	6-12	Severe (1)	Moderate (1)	C	Medium
		25	12-50	Severe (1, 5, 6)	Severe (2)	D	High
10	Pembroke Beasley Corydon	35	2- 6	Slight	Slight	B	Low
		15	2-20	Severe (1)	Moderate (1)	C	Medium
		14	12-30	Severe (1, 5, 6)	Moderate (3)	C	Medium
11	Rockcastle Colyer Trappist	22	20-30	Severe (1, 5, 6)	Severe (1)	D	High
		18	20-30	Severe (1, 5, 6)	Severe (2)	D	High
		17	6-12	Severe (1, 6)	Moderate (1)	C	Medium
12	McGary Huntington	35	0- 2	Severe (1)	Severe (1)	C	Medium
		30	0- 2	Severe (4)	Severe (4)	B	Low
13	McGary Markland Lawrence	34	0- 2	Severe (1)	Severe (1)	C	Medium
		15	12-20	Severe (1, 5)	Moderate (1)	C	High
		7	0- 2	Severe (1)	Severe (1)	C	Medium
14	Garmon Crider Baxter	30	25-60	Severe (5, 6)	Severe (2)	C	High
		20	2-12	Moderate (5)	Slight	B	Medium
		15	6-20	Severe (1, 5)	Slight	B	Medium
15	Huntington Lawrence Newark	21	0- 4	Severe (4)	Severe (4)	B	Low
		19	0- 2	Severe (1)	Severe (1)	C	Medium
		17	0- 2	Severe (4)	Severe (4)	C	Medium
16	Beasley Fairmont Pembroke	30	6-12	Severe (1)	Moderate (1)	C	Medium
		20	12-30	Severe (1, 5, 6)	Severe (2)	D	High
		15	0-12	Moderate (5)	Slight	B	Low
17	Lowell Fairmont Shelbyville	50	6-12	Severe (1)	Moderate (1)	C	Medium
		14	12-30	Severe (1, 5, 6)	Severe (2)	D	High
		12	2- 6	Moderate (1)	Slight	B	Low
18	Eden Lowell	60	12-30	Severe (1, 5)	Severe (1)	C	Medium
		20	6-12	Severe (1)	Moderate (1)	C	Medium

Exhibit 3.4t SELECTED SOIL INTERPRETATIONS - SALT RIVER BASIN (CONT'D)

1 Map No.	2 Soil Association	3 Percent of Association	4 Dominant Slope %	5 Septic Tank Absorption Field ¹	6 Land Application of Wastewater ²	7 Hydrologic Soil Group ³	8 Potential Sediment Run-Off ⁴
19	Eden	91	20-30	Severe (1, 5)	Severe (1)	C	High
20	Lowell	40	2-12	Severe (1)	Moderate (1)	C	Medium
	Mercer	20	0- 6	Severe (1)	Severe (1)	C	Medium
	Faywood	10	6-20	Severe (1, 5, 6)	Moderate (1)	C	Medium
21	Maury	50	2-12	Slight	Slight	B	Low
	McAfee	30	6-20	Severe (1, 5, 6)	Moderate (1)	C	Medium
22	Garmon	42	30-40	Severe (5, 6)	Severe (2)	C	High
	Rockcastle	25	20-30	Severe (1, 5, 6)	Severe (1)	D	High
	Colyer	13	12-30	Severe (5, 6)	Severe (2)	D	High

- (1) Slow percolation
 (2) Low available water capacity
 (3) Medium available water capacity
 (4) Flooding
 (5) Excessive slope
 (6) Depth to bedrock

¹U.S. Department of Agriculture, Soil Conservation Service, "Soil Interpretation for Town and Country Planning", 1973.

²Preliminary determination by the U.S. Department of Agriculture, Soil Conservation Service, Lexington, Kentucky, 1975.

Degree of slope was not considered. Soils rated slight or moderate may warrant a rating of severe if the slope is steep enough to increase run-off potential. The extent to which slope will influence potential for land application of wastewater will depend upon the method of application used.

³U.S. Department of Agriculture, Engineering Field and Design Manual, Ky. Addendum, 1970.

⁴Represents a composite interpretation of Columns 4 and 7 by Schimpeler-Corradino Associates.

Soil Conservation Service's report, "Soil Interpretation for Town and Country Planning" and reported in Column 5 as either slight, moderate or severe.

Column 6 represents a preliminary determination by the SCS of each soil's limitation for use as a disposal medium for wastewater. This determination was based on a series of specific soil properties. It was assumed the wastewater will be at low application rates and will lack toxic quantities of heavy metals. Where the degree of limitation is shown as slight, soil properties are generally favorable; moderate indicates soil properties or site features are unfavorable but the limitation may be minimized by special planning and design; and severe indicates one or more soil properties or site features are so unfavorable or difficult to overcome that a major effort in site preparation, special design or intensive maintenance is required. For soils rated severe, such costly measures are often not feasible.

In determining the degree of limitation, soil slope was not used as one of the criteria. Therefore, those soils rated slight or moderate may have a rating of severe if the slope is sufficiently steep to increase runoff potential. The extent to which slope will influence the potential for land application of wastewater will depend upon the method of application used.

Column 7 identifies the infiltration rate and run-off potential for individual soils. Soil types throughout the state were classified into four hydrological soil groups by the Soil Conservation Service, according to their infiltration and transmission rates. The four categories are described as follows:

- A. Soils having high infiltration rates when thoroughly wetted--these consist chiefly of deep, well to excessively drained sands or gravels. These soils have a high rate of water transmission.
- B. Soils having moderate infiltration rates when thoroughly wetted--these consist chiefly of moderately deep to deep, moderately well to well drained soils with moderately fine to moderately coarse textures. These soils have a moderate rate of water transmission.
- C. Soils having slow infiltration rates when thoroughly wetted--these consist chiefly of soils with a layer that impedes downward movement of water or soils with moderately fine to fine texture. These soils have a slow rate of water transmission.
- D. Soils having very slow infiltration rates when thoroughly wetted--these consist chiefly of clay soils with a high swelling potential, soils with a permanent high water table, soils with a claypan or clay layer at or near the surface, and shallow soils over nearly impervious material. These soils have a very slow rate of water transmission.

Column 8, Potential Sediment Run-Off, represents a composite rating of Columns 3, Dominant Slope Percentage, and 7, Hydrological Soil Group, based on the following schedule:

<u>Slope</u>	<u>Hydrologic Soil Group</u>	<u>Potential Sediment Run-Off</u>
Less than 6%	A, B	Low
6-20%	C	Medium
Over 20%	D	High

Some judgment was necessarily exercised because of the broad ranges reported for many soil associations. Generally, however, the most severe limitation was applied where discrepancies between the hydrologic soil group and dominant slope appeared.

WATER RESOURCES

Introduction

Surface and groundwater resources in the Basin are, relative to the state in general, critically limited. Numerous stretches of tributaries frequently "dry up" during low rainfall periods. Groundwater yields are predominantly among the lowest in the state. Thus, water needs of the Basin must be fulfilled by the Salt River main stem, major tributaries, and reservoirs.

Surface Water Resources

The mainstream of the Salt River rises in Boyle County just west of Danville and flows northward for approximately 30 miles to the vicinity of Lawrenceburg. From there the stream flows in a westerly direction about 95 miles to its confluence with the Ohio River at West Point, Kentucky, 26 miles downstream from Louisville and 351 miles upstream from the mouth of the Ohio River. Exhibit 3.5m illustrates the major surface water resources of the Basin.

The principal tributaries of the Salt River are Rolling Fork, Floyds Fork and Brashears Creek. Along the mainstream and Rolling Fork, the bottom lands vary in width from a minimum of a quarter mile to a maximum of four miles. The floodplains along with the other tributaries, are more narrow varying in width from about 300 to 2,000 feet. The banks of the stream are generally well defined and vary in height from four to 10 feet.

United States Geological Survey gaging stations in the Basin are located (1) at Shepherdsville on the Salt River, (2) at Fisherville on Floyds Fork, (3) at Boston on the Rolling Fork, and (4) at Bardstown on the Beech Fork. For these stations, the period of record, drainage area, average flow, maximum flow, minimum flow, and the seven day ten year low flow are presented in exhibit 3.6t.

Stream flow volumes throughout the Basin vary tremendous as shown in comparing average flows to maximum and minimum flows at the gaging stations. Most of the streams at sometime of the year have zero flow. The low flow contributes to problems with organic waste loads and sediment.

Exhibit 3.6t SURFACE FLOW RECORDS - SALT RIVER BASIN

Station	Period of Drainage		Average Flow (cfs)	Maximum Flow (cfs)	Minimum Flow (cfs)	7 day 10 yr. Low Flow (cfs)
	Record (yrs.)	Area (sq. mi.)				
Salt River at Shepherdsville, Kentucky	36	1,197	1,516, 1.3/sq.mi.	78,200, 65/sq.mi.	0, 0/sq. mi.	0.6**
Floyds Fork of Salt River at Fisherville, Kentucky	30	138	138, 1.2/sq. mi.	28,500, 206/sq. mi.	0, 0/sq. mi.	0.0
Rolling Fork of Salt River at Boston, Kentucky	36	1,299	1,705, 1.3/sq. mi.	50,500, 38.9/sq.mi.	.4, 0/sq. mi.	1.7
Beech Fork of Salt River at Bardstown, Kentucky	35	669	894, 1.3/sq. mi.	33,900, 50.7/sq.mi.	0, 0/sq. mi.	0.2

*Cubic Feet Per Second

**Extrapolated

NOTE: Data is taken from "Surface Water Records in Kentucky" by the United States Geological Survey. The 7 day 10 year low flow was taken from the waste load allocation produced as a component of the 303e River Basin Continuing Planning Process.

The slope of the Salt River is 5.0 feet per mile (ft./mi.). The slope of Rolling Fork averages 6 ft./mi. and the slope of the Beech Fork is 4 ft./mi. The average slope of the major tributaries are Brashears Creek, 6 ft./mi., Chaplin River, 6.5 ft./mi., and Floyds Fork, 7 ft./mi.

Slope, up to ten ft./mi., has a direct effect on the reaeration of a stream. With slopes from 0-2 ft./mi., the reaeration is low. Slopes from 3-6 ft./mi. give a medium reaeration while slopes of 7-10 ft./mi. give a high reaeration. These stream slopes provide moderate to good reaeration of the streams.

Presently, there are no major impoundages in the Salt River to provide for low flow augmentation. The Corps of Engineers has been authorized to construct the Taylorsville Reservoir which will provide low flow augmentation of 60 cfs.

Several major nonfederal water developments are present in the Basin supplying water for industrial, recreational and municipal needs. The major non-federal water developments in the Basin are listed in Exhibit 3.7t.

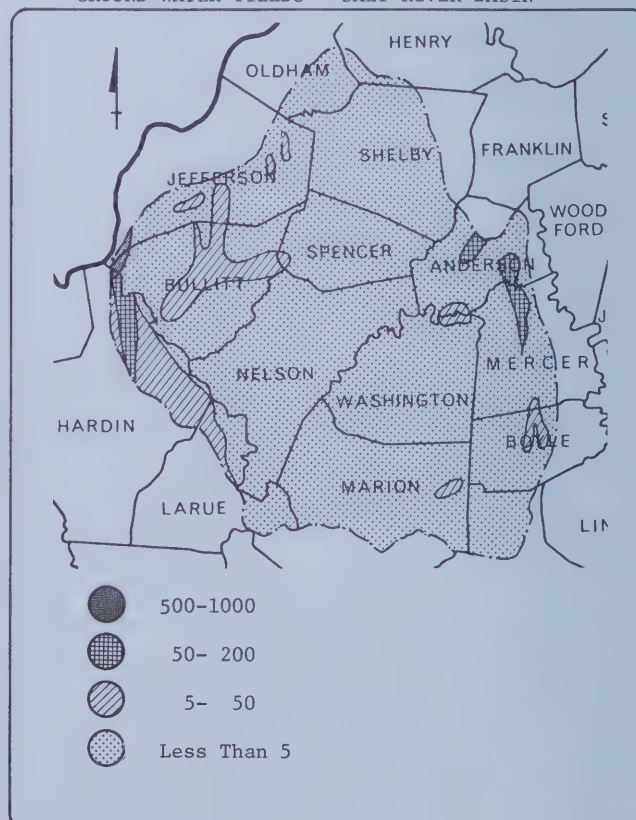
Hundreds of ponds and small lakes are scattered throughout the Basin and are used primarily for agricultural and limited recreational purposes.

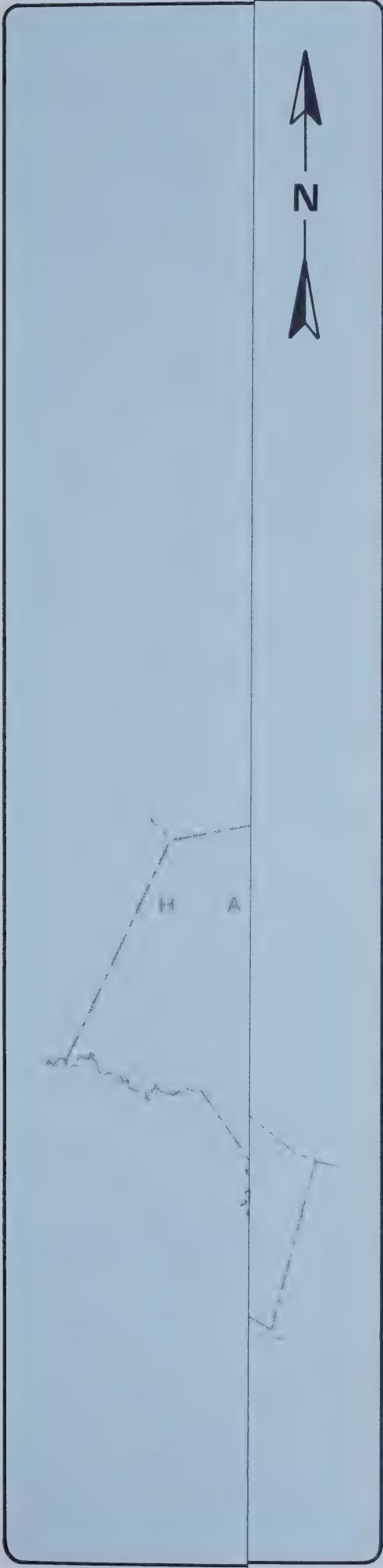
Groundwater Resources

The groundwater availability in the Salt River Basin is low. Wells which yield 100 gallons per minute (g.p.m.) are rare, the majority of the wells produce 50 g.p.m. or less.

The expected groundwater yield in gallons per minute from single vertical wells is illustrated below and reveals that most of the Basin will produce no more than five gallons per minute. This limited availability of groundwater and the "Knob" topography are factors causing the extremely low flows which frequently occur during the dry months of the year.

GROUND WATER YIELDS - SALT RIVER BASIN





SALT RIVER BASIN

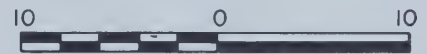


EXHIBIT 3.5m

STREAM FLOW CHARACTERISTICS

LEGEND

- 0 — 1.0 cfs
- 1.0 — 10.0 cfs
- Primary Monitoring Station
- Secondary Monitoring Station



SCALE IN MILES

KENTUCKY WATER QUALITY MANAGEMENT PLAN

Prepared for Division of Water Quality
KENTUCKY DEPARTMENT FOR NATURAL RESOURCES
AND ENVIRONMENTAL PROTECTION

SCHIMPELER•CORRADINO ASSOCIATES
engineering & planning consultants
1429 S. Third Street
Louisville, Kentucky 40208
502/636-3555





SALT RIVER BASIN

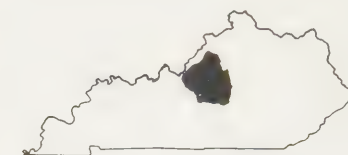


EXHIBIT 3.5m

STREAM FLOW CHARACTERISTICS

LEGEND

0 — 1.0 cfs

1.0 — 10.0 cfs



Primary Monitoring Station



Secondary Monitoring Station



SCALE IN MILES

KENTUCKY WATER QUALITY MANAGEMENT PLAN

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Exhibit 3.7t NON-FEDERAL IMPOUNDMENTS - SALT RIVER BASIN

Project Owner	Location		Function	Storage (Acre-Feet)	Surface Area (Acres)	Drainage Area (Sq. Mi.)
	Stream	County				
Beaver Lake Commonwealth	Beaver Creek	Anderson	R	2,813	158	2.90
Bullitt Co. Sportsman Club Lake	Longlick Creek	Bullitt	R	156	11	0.37
Bullitt Co. Sportsman Club Guist Creek Lake Commonwealth	Guist Creek	Shelby	R & WS	4,898	333	29.41
Hurricane Lake Private	Wilson Creek	Nelson	R	865	39	1.03
Jim Beam Distillery Reservoir Jim Beam Distillery	Cave Hollow Branch	Bullitt	IWS	44	7	0.27
Johnson Lake Private	Rolling Fork	Nelson	R	40	12	0.16
J. W. Dant Distillery Reservoir	Rolling Fork	Nelson	IWS	40	12	0.56
J. W. Dant Distillery Lake Nevin Commonwealth	Longlick	Bullitt	R	330	28	
Lake McNeely Commonwealth	Floyds Fork	Jefferson	R	421	50	4.91
Lakewood Shores Private	Currys Creek	Oldham	R	93	10	0.15
Lotus Lake Private	Cox Creek	Bullitt	R	545	32	0.27
L & N Railroad Lake Private	Currys Creek	Oldham	R	439	43	0.82
Marion County Sportsman Club Lake Marion County Sportsman Club	Rolling Fork	Marion	R	213	21	0.23
Mary Ross Lake City of Shelbyville	Clear Creek	Shelby	WS	380	26	0.46
Reynold's Meadows Lake Private	Currys Creek	Oldham	R	270	32	1.16
Scuffletown Hollow Lake Private	Wilson Creek	Nelson	R	286	28	1.61
Shelby Lake City of Shelbyville	Clear Creek	Shelby	WS	77	17	21.20
Silver-Crystal Lake Private	Wilson Creek	Jefferson	R	130	19	0.26
Spooky Hollow Lake Private	Lick Creek	Nelson	R	106	13	0.66
Springfield Reservoir (2) City of Springfield	Cartwright Creek	Washington	WS	894	59	18.25
Sympson Lake Commonwealth	Buffalo Creek	Nelson	R & WS	4,031	184	9.10
Tank Lake Private	Chaplin River	Boyle	R	173	15	0.68
T. W. Samuels Distillery Reservoir T. W. Samuels Distillery	Cox Creek	Nelson	WS	198	29	0.88
Willisburg Lake Commonwealth	Lick Creek	Washington	R & WS	2,373	126	3.69

NOTE: IWS - Industrial Water Supply; R - Recreation; WS - Municipal Water Supply

Source: Kentucky Framework Water Plan, Spindletop Research, Inc., 1971.

POPULATION

Basic to development of any river basin plan is an identification and analysis of its demographic or population characteristics with emphasis placed on defining the significant water-related and water-dependent social activities. From this base, projections of future population, economic activity, and land use will be made, revealing the potential for future development. Once this step is accomplished, it will be possible to translate projections of future development into probable demands to be placed upon receiving waters within the planning area.

This section provides a general characterization of the existing population within the Salt River Basin and projections for years 1975, 1980 and 1995. As reported in Exhibit 3.8t, a distinction was made between urban and rural population with the latter characterized by rural farm or rural nonfarm categories. Urban population comprises all persons living in urbanized areas and areas of 2,500 inhabitants or more outside urbanized areas; all remaining population is classified as rural. Rural farm and nonfarm inhabitants were proportioned relative to the distribution of housing units within each category (Exhibit 3.9t) and the average persons per housing unit typical in each county. A detailed disaggregation and reporting of existing and projected population by stream segments is available in Appendices A and B.

1970 Population

The unique requirements of basin planning specify the need to determine population levels by sub-county or stream segment areas. Additionally, the Salt River Basin division line does not always align conveniently with existing political boundaries and indeed bisects a number of counties comprising its study area. Estimate of the 1970 population residing inside and outside the Basin for counties bisected by the Basin division line was facilitated by the Bureau of the Census' county subdivision statistics. In Kentucky each county has been subdivided by the Census Bureau into Census County Divisions (CCD's). They represent relatively permanent areas whose boundaries normally follow physical features or the limits of incorporated places. Use of CCD statistics enabled estimation of the population residing within the Basin to reflect localized differences in population density and character. Where individual counties contributed to the area of two or more river basins, the research teams responsible for development of the respective basin plans exchanged data with one another to eliminate any inconsistency with their combined estimates and the 1970 county total. This process further insured conformity with rural state population totals. The results of this process appear in Exhibit 3.5t, "Population Trends and Projections - Salt River Basin 1970-1995."

Population Projections 1975-1995

Early in the data collection phase of this study, a number of population projections for Kentucky were reviewed by the Population, Economic and

Land Use subcommittee², with the merits and shortcomings of each identified. In assessing each projection the following criteria were considered as critical in meeting the overall objectives of river basin planning in Kentucky:

1. Area of Coverage - The statewide nature of this planning effort required projections equally available for the entire state as well as by county.
2. Reliability - Although population projections are, at best, tenuous, a projection based upon a variety of economic and demographic variables would offer the greatest degree of reliability.
3. Reporting Format - Federal river basin planning guidelines recommend that both short term (1975-1980) and long term (1995) projections be developed. In addition, estimates of the urban and rural distribution of future population are required as input for calculating point and nonpoint source loads throughout the basin.

Initial subcommittee evaluation of available statewide population projections, based on the above criteria, eliminated all but two from serious consideration; Population By County - Historic (1940-1970) and Projected (1980-2020) for Region IV prepared by the Federal Environmental Protection Agency and Kentucky Population Projections, 1975-2020 prepared by Spindletop Research, Incorporated of Kentucky. Of these two projections, the Population, Economic and Land Use subcommittee and the Kentucky Department for Natural Resources and Environmental Protection, Division of Water, agreed that the Spindletop report would serve as the primary population projection source for the statewide river basin planning effort. Use of the Spindletop Projections as a common source further served to insure consistency of individual basin plans with an accepted overall state total and provided compatibility with employment projections, developed by the Kentucky Department of Commerce, utilized in latter sections of this report.

County population totals for the years 1975 and 1980 were obtained directly from the Spindletop report Kentucky Population Projections, 1975-2020, Volume II, and are shown in Exhibit 3.5t. 1995 population estimates represent a direct interpolation between the reported years 1990 and 2000. Further delineation of population included within the basin was primarily based upon the proportional distribution developed in the analysis of 1970 population. In many instances, however, the principal urban center within a county was projected to increase in population at a higher rate than the county as a whole. Where such an instance existed, the proportional distribution of projected county population was adjusted to reflect any

²The Population, Economic and Land Use subcommittee was composed of representatives of each consulting firm participating in the statewide 303(e) basin planning program whose primary responsibilities were to coordinate decisions relating to source data, methodology and reporting format.

Exhibit 3.8t - POPULATION TRENDS AND PROJECTIONS - SALT RIVER BASIN 1970 - 1995

Area	Population at Year				Population Change Between Year					
					1970-75		1975-80		1980-95	
	1970 ¹	1975 ²	1980 ²	1995 ³	Number	%	Number	%	Number	%
State of Ky.	3,218,706	3,375,638	3,564,414	4,254,305	156,932	4.87	188,776	5.59	689,891	19.35
Fifteen County Total	970,579	1,038,997	1,117,750	1,402,317	68,418	7.05	78,753	7.58	284,567	25.46
Outside SRB	633,487	662,626	695,696	842,181	29,139	4.60	33,070	4.99	146,485	21.06
Inside SRB	337,092	376,371	422,054	560,136	39,279	11.65	45,683	11.14	138,082	32.72
Urban	210,932	245,922	288,008	420,368	34,990	16.59	42,086	17.11	132,360	45.96
Rural	126,160	130,449	134,046	139,768	4,289	3.40	3,597	2.76	5,722	4.27
Farm	45,224	44,404	42,970	38,487	-820	1.81	-1,434	3.23	-4,483	10.43
Nonfarm	80,936	86,045	91,075	101,281	5,109	6.31	5,031	5.85	10,205	11.20
Anderson County	9,358	9,798	10,296	12,136	440	4.7	498	5.1	1,840	17.9
Outside SRB	1,483	1,205	1,317	1,486	-278	18.7	112	9.3	169	12.8
Inside SRB	7,875	8,593	8,979	10,650	718	9.12	386	4.5	1,671	18.6
Urban	3,579	4,031	4,540	6,425	452	12.6	509	12.6	1,885	41.5
Rural	4,296	4,562	4,439	4,225	266	6.2	-123	2.7	-214	4.8
Farm	2,480	2,517	2,136	1,297	37	1.5	-381	15.1	-839	39.3
Nonfarm	1,816	2,045	2,303	2,928	229	12.6	258	12.6	-625	27.1
Boyle County	21,090	21,416	21,767	22,763	326	1.55	351	1.6	996	4.6
Outside SRB	16,840	16,442	16,698	17,573	-398	2.4	256	1.6	875	5.2
Inside SRB	4,250	4,974	5,069	5,190	724	17.0	95	1.9	121	2.4
Urban	0	0	0	0	0	0	0	0	0	0
Rural	4,250	4,974	5,069	5,190	724	17.0	95	1.9	121	2.4
Farm	1,255	1,469	1,497	1,533	214	17.0	28	1.9	36	2.4
Nonfarm	2,995	3,505	3,572	3,657	510	17.0	67	1.9	85	2.4
Bullitt County	26,090	31,839	39,368	76,359	5,749	22.0	7,529	23.7	36,991	93.96
Outside SRB	0	0	0	0	0	0	0	0	0	0
Inside SRB	26,090	31,839	39,368	76,359	5,749	22.0	7,529	23.7	36,991	93.96
Urban	2,769	7,829	15,192	61,573	5,060	82.7	7,363	94.0	46,381	305.3
Rural	23,321	24,010	24,176	14,787	689	2.95	166	0.69	9,389	38.84
Farm	3,344	3,443	3,467	2,120	99	2.96	24	0.70	-1,347	38.85
Nonfarm	19,977	20,567	20,709	12,667	590	2.95	142	0.69	-8,042	38.83
Casey County	12,930	12,781	12,644	11,989	-149	1.15	-137	1.07	-655	5.18
Outside SRB	12,070	11,933	11,805	11,194	-139	1.15	-128	1.07	-611	5.18
Inside SRB	858	848	839	795	-139	1.15	-9	1.06	-44	5.24
Urban	0	0	0	0	0	0	0	0	0	0
Rural	858	848	839	795	-10	1.17	-9	1.06	-44	5.24
Farm	858	848	839	795	-10	1.17	-9	1.06	-44	5.24
Nonfarm	0	0	0	0	0	0	0	0	0	0
Hardin County	78,421	83,974	89,540	105,553	5,553	7.08	5,566	6.63	16,013	17.88
Outside SRB	33,058	38,410	40,955	48,280	5,352	16.19	2,545	6.63	7,325	17.89
Inside SRB	45,363	45,564	48,585	57,273	201	0.44	3,021	6.63	8,688	17.88
Urban	39,632	39,809	42,449	50,039	177	0.45	2,640	6.63	7,590	17.88
Rural	5,731	5,755	6,136	7,234	24	0.42	75	13.05	728	11.19
Farm	1,699	1,614	14,421	1,309	85	5.00	85	5.27	220	14.49
Nonfarm	4,032	4,141	4,694	5,925	109	2.70	836	20.19	948	19.05
Henry County	10,910	11,421	12,066	14,842	511	4.68	645	5.65	2,776	23.01
Outside SRB	7,889	8,257	8,724	10,731	368	4.66	467	5.66	2,007	23.01
Inside SRB	3,021	3,164	3,342	4,111	143	4.73	178	5.63	769	23.01
Urban	0	0	0	0	0	0	0	0	0	0
Rural	3,021	3,164	3,342	4,111	143	4.73	178	5.63	79	23.01
Farm	796	834	881	1,083	38	4.65	47	5.64	202	22.93
Nonfarm	2,225	2,330	2,461	3,028	105	4.72	131	5.62	567	23.04
Jefferson County	695,055	744,482	800,507	994,526	49,427	7.11	56,025	7.53	194,019	24.24
Outside SRB	535,372	557,124	584,182	709,503	21,752	4.06	27,058	4.86	125,321	21.45
Inside SRB	159,683	187,358	216,325	285,023	27,675	17.33	28,967	15.46	68,698	31.76
Urban	139,724	166,541	195,221	260,983	28,817	19.19	28,680	17.22	65,762	33.69
Rural	19,959	20,817	21,104	24,040	858	4.30	287	1.38	2,936	13.91
Farm	4,751	4,531	4,078	3,670	-220	4.63	-453	10.00	-408	10.00
Nonfarm	15,208	16,286	17,026	20,370	1,078	7.09	740	4.54	3,344	19.64

Exhibit 3.8t - POPULATION TRENDS AND PROJECTIONS - SALT RIVER BASIN 1970 - 1995

Area	Population at Year				Population Change Between Year					
					1970-75		1975-80		1980-95	
	1970 ¹	1975 ²	1980 ²	1995 ³	Number	%	Number	%	Number	%
Larue County	10,672	11,095	11,720	14,208	423	3.96	625	5.63	2,418	21.23
Outside SRB	9,036	9,397	9,927	12,034	361	4.00	530	5.64	2,107	21.22
Inside SRB	1,636	1,698	1,793	2,174	62	3.79	95	5.59	381	21.25
Urban	0	0	0	0	0	0	0	0	0	0
Rural	1,636	1,698	1,793	2,174	62	3.79	95	5.59	381	21.25
Farm	1,309	1,359	1,435	1,739	50	3.82	76	5.59	304	21.18
Nonfarm	327	339	358	435	12	3.67	19	5.60	77	21.51
Marion County	16,714	17,338	18,161	21,190	624	3.73	823	4.75	3,029	16.68
Outside SRB	0	0	0	0	0	0	0	0	0	0
Inside SRB	16,714	17,338	18,161	21,190	624	3.73	823	4.75	3,029	16.68
Urban	5,528	6,006	6,572	8,654	478	8.65	566	9.42	2,082	31.68
Rural	11,186	11,332	11,589	12,536	146	1.31	257	2.27	947	18.17
Farm	5,396	5,467	5,591	6,047	71	1.32	124	2.27	456	8.16
Nonfarm	5,790	5,865	5,998	6,489	75	1.30	133	2.27	491	8.19
Mercer County	15,960	16,950	18,089	22,529	990	6.20	1,150	6.78	4,442	24.54
Outside SRB	3,291	3,878	4,183	5,320	587	17.84	305	7.86	1,137	27.18
Inside SRB	12,669	13,072	13,906	17,209	403	3.18	834	6.38	3,303	23.75
Urban	6,741	7,422	8,216	11,314	681	10.10	794	10.70	3,098	37.71
Rural	5,928	5,650	5,690	5,895	-271	4.69	40	0.71	205	3.60
Farm	3,182	2,627	2,354	1,299	-555	17.44	-273	10.39	-1,055	44.82
Nonfarm	2,746	3,023	3,336	4,596	277	10.09	303	10.02	1,260	37.77
Nelson County	23,477	24,364	25,503	29,416	887	3.78	1,139	4.67	3,913	15.4
Outside SRB	0	0	0	0	0	0	0	0	0	0
Inside SRB	23,477	24,364	25,503	29,416	887	3.78	1,139	4.67	3,913	15.4
Urban	5,816	6,259	6,781	8,616	443	7.61	522	8.34	1,835	27.06
Rural	17,661	18,105	18,722	20,800	444	2.51	617	3.41	2,078	11.10
Farm	5,825	5,367	4,922	3,266	-458	7.86	-445	8.29	-1,656	33.64
Nonfarm	11,836	12,738	13,800	17,534	902	7.62	1,062	8.34	3,734	27.06
Oldham County	14,687	16,428	18,606	27,847	1,741	11.85	2,178	13.26	9,241	49.67
Outside SRB	12,048	13,471	15,257	22,835	1,423	11.81	1,786	13.26	7,578	49.67
Inside SRB	2,639	2,957	3,349	5,012	312	11.82	398	13.49	1,663	49.66
Urban	0	0	0	0	0	0	0	0	0	0
Rural	2,639	2,957	3,349	5,012	312	11.82	398	13.49	1,663	49.66
Farm	554	554	554	554	0	0	0	0	0	0
Nonfarm	2,085	2,403	2,795	4,458	318	15.25	392	16.31	1,663	59.50
Shelby County	18,999	19,892	20,973	25,216	893	4.70	1,081	5.43	4,243	20.23
Outside SRB	2,398	2,509	2,648	3,225	111	4.63	139	5.54	577	21.79
Inside SRB	16,601	17,383	18,325	21,991	782	4.71	942	5.42	3,666	20.00
Urban	4,182	4,874	5,662	8,700	692	16.55	788	16.17	3,038	53.66
Rural	12,419	12,509	12,663	13,291	90	0.72	154	1.23	628	4.96
Farm	5,650	5,650	5,650	5,650	0	0	0	0	0	0
Nonfarm	6,769	6,859	7,013	7,641	90	1.33	154	2.24	628	8.95
Spencer County	5,488	6,198	7,103	11,274	710	12.94	905	14.60	4,171	58.72
Outside SRB	0	0	0	0	0	0	0	0	0	0
Inside SRB	5,488	6,198	7,103	11,274	710	12.94	905	14.60	4,171	58.72
Urban	0	0	0	0	0	0	0	0	0	0
Rural	5,488	6,198	7,103	11,274	710	12.94	905	14.60	4,171	58.72
Farm	2,632	2,632	2,632	2,632	0	0	0	0	0	0
Nonfarm	2,856	3,566	4,471	8,642	710	24.86	905	25.38	4,171	93.29
Washington County	10,728	11,021	11,407	12,469	293	2.73	386	3.50	1,062	9.31
Outside SRB	0	0	0	0	0	0	0	0	0	0
Inside SRB	10,728	11,021	11,407	12,469	293	2.73	386	3.50	1,062	9.31
Urban	2,961	3,151	3,375	4,064	190	6.42	224	7.11	689	20.41
Rural	7,767	7,870	8,032	8,405	103	1.33	162	2.06	373	4.64
Farm	5,493	5,493	5,493	5,493	0	0	0	0	0	0
Nonfarm	2,274	2,377	2,539	2,912	103	4.53	162	6.82	373	14.69

¹Source: U.S. Department of Commerce, Bureau of the Census, 1970 Census of Population, Kentucky.²Source: Kentucky Program Development Office, Kentucky Population Projections: 1975-2020, Volume II.³Source: 1995 population projections represent an interpolation between the projected years of 1990-2000.

anticipated deviations in current county growth patterns. This procedure often resulted in differential growth rates for individual sectors within a county. The final step was to apply the appropriate growth rates to that area of the county included within the Salt River Basin and accumulate those figures to obtain the "Inside SRB" population.

Similar to the 1970 population, rural population was simply defined as all population classified as not urban while projections of urban population were taken directly from the Spindletop projection series. Further classification into farm and nonfarm population was also generally based upon the proportional distribution of 1970.

A more detailed description of the population disaggregation from county to stream segment is presented in Appendix A. Generally, however, the same basic methodology was employed to estimate population by stream segments as was used to determine population residing inside and outside the Salt River Basin.

HOUSING

For purposes of water quality management planning, a translation of projected population into corresponding housing units is particularly useful for calculating the number of potential wastewater treatment facility customers, the spatial distribution and density of residential development and the extent of urban runoff. This section will describe the methodology employed in estimating the number and types of housing units projected for through 1995 which appear in Exhibit 3.9t and Appendices A and B.

Within the context of this study, housing units are characterized in three categories; urban, rural farm and nonfarm. Urban housing refers to all housing units in urbanized areas and places of 2500 inhabitants or more outside urbanized areas. In the remaining rural areas housing units are subdivided into rural farm housing, which comprises all rural units on farms of ten acres or more and rural nonfarm housing, which includes all remaining rural units.

Housing unit totals, by county, for 1970 were derived from the U.S. Bureau of the Census report, Detailed Housing Characteristics, Kentucky, 1970, in which additional breakdowns of urban, rural farm and rural nonfarm housing units were also reported. Where counties were divided by the basin boundary line determination of the distribution of the three categories of housing units was made based upon the proportionate distribution of "Inside SRB" and "Outside SRB" population reported in the previous section. This process provided an estimate of 1970 housing units reported by the three principal categories.

Housing unit projections through 1995 were primarily based upon the 1970 distribution and a county analysis of the persons per housing unit within all three categories. Once the population per dwelling unit factors were established they were then applied to the projected population within each category for the projection years 1975, 1980, 1995. It was assumed that the population per dwelling unit factor would remain constant throughout the planning period.

While Exhibit 3.9t provides a summary of this process Appendices A & B will provide a more detailed reporting of projected housing units by stream segments.

ECONOMICS

Economic activity within the Salt River Basin has been characterized based on an analysis of nonagricultural employment. Projections of specific water dependent and water-related employment categories will be used to estimate future industrial growth and wastewater loadings of streams within the Basin. Estimates of 1970 nonagricultural employment were provided by the Kentucky Department of Commerce for the years 1970, 1980 and 1990. While 1970 employment figures provided by the State were reported by county, 1980 and 1990 projections were available only as an aggregation by Area Development Districts (ADD's). The Population, Economic and Land Use subcommittee, therefore, agreed that the lead consultant for each ADD would assume responsibility for disaggregating the 1980 and 1990 ADD employment projections to a county level and would make this data available to other consultants preparing basins with common ADD's.

Hence, Schimpeler-Corradino Associates assumed the lead responsibility for the Kentuckiana Regional Planning and Development Agency and the Lincoln Trail Area Development Districts. A comprehensive discussion of the methodology used in the disaggregation process appears in Appendix A together with all supporting tables. Exhibits 3.10t and 3.11t however, provide a summary of total nonagricultural employment within the Salt River Basin and the fifteen counties composing its areas.

Although much of the urbanized portions of Jefferson County lie outside of the Salt River Basin, Jefferson County is nevertheless the principal contributor of nonagricultural employment within the basin. In 1970, 75.2 percent of all basin nonagricultural employment was attributable to Jefferson County (Exhibit 3.11t). During that same period Hardin County accounted for 7,055 employees or 4.8 percent of the basin total and ranked second among the fifteen counties. By 1995, however, Jefferson County is projected to continue as the leading employment center within the Basin but its share is anticipated to decrease slightly to 66.3 percent while development spurs additional economic activity in other counties. Bullitt County, for instance, is projected to increase its share of nonagricultural employment from 1.8 percent in 1970 to 10.8 percent by 1995 and assume the position of second in overall basin employment.

With the exception of Jefferson County, the Salt River Basin is not typically an industrialized region. In fact, basin-wide nonmanufacturing employment totals nearly twice that of manufacturing employment. Principal industries are scattered throughout the Basin but tend to be located near major towns and cities. Distilling and manufacturing of whiskey and bourbon are important industries throughout Kentucky and particularly the Salt River Basin where a number of major distilleries are located near Bardstown, Lawrenceburg and Shepherdsville. While this represents a substantial increase in employment, it is generally reflective of the population gains projected to occur over the next twenty years.

Exhibit 3.9t HOUSING UNIT TRENDS AND PROJECTIONS - SALT RIVER BASIN 1970-1995

Area	Housing Units at Year				Housing Unit Changes Between Year					
	1970 ¹	1975 ²	1980 ²	1995 ²	1970-75		1975-80		1980-95	
					Number	%	Number	%	Number	%
Fifteen County Total	308,711	331,801	354,887	444,392	23,090	7.5	23,086	7.0	89,505	25.2
Outside SRB	204,984	214,686	224,197	271,092	9,702	4.7	9,511	4.4	46,895	20.9
Inside SRB	103,727	117,115	130,690	173,300	13,388	12.9	13,575	11.6	42,610	32.6
Urban	64,764	76,286	88,385	128,738	11,522	17.8	12,099	15.9	40,353	45.7
Rural	38,963	40,829	42,305	44,562	1,866	4.8	1,476	3.6	2,257	5.3
Farm	13,267	13,459	13,868	12,387	192	1.4	409	3.0	-1,481	-10.7
Nonfarm	25,696	27,370	28,437	32,175	1,674	6.5	1,067	3.9	3,783	13.1
Anderson County Total	3,284	3,474	3,664	4,319	190	5.8	190	5.5	655	17.9
Outside SRB	530	500	469	529	-30	-5.7	-31	-6.2	60	12.8
Inside SRB	2,754	2,974	3,195	3,790	220	8.0	221	7.4	595	36.8
Urban	1,326	1,470	1,615	2,287	144	10.8	145	9.9	672	41.6
Rural	1,428	1,504	1,580	1,503	76	5.3	76	5.1	-77	-4.9
Farm	824	744	760	461	-80	-9.7	16	2.2	-299	-39.3
Nonfarm	604	760	820	1,042	156	25.8	60	7.9	222	27.1
Boyle County Total	7,267	7,606	7,944	8,308	339	4.7	338	4.4	364	4.6
Outside SRB	5,828	5,961	6,094	6,414	133	2.3	133	2.2	320	5.2
Inside SRB	1,439	1,645	1,850	1,894	206	14.3	205	12.5	44	2.4
Urban	0	0	0	0	0	0	0	0	0	0
Rural	1,439	1,645	1,850	1,894	206	14.3	205	12.5	44	2.4
Farm	425	458	546	559	33	7.8	88	19.2	13	2.4
Nonfarm	1,014	1,187	1,304	1,335	173	17.1	117	9.8	31	2.4
Bullitt County Total	7,732	9,474	11,216	21,755	1,742	22.5	1,742	18.4	10,539	94.0
Outside SRB	0	0	0	0	0	0	0	0	0	0
Inside SRB	7,732	9,474	11,216	21,755	1,742	22.5	1,742	18.4	10,539	94.0
Urban	898	2,613	4,328	17,543	1,715	191.0	1,715	25.0	13,215	305.3
Rural	6,834	6,861	6,888	4,212	27	0.4	27	0.4	-2,676	38.9
Farm	980	1,001	988	604	21	2.1	-13	-1.3	-384	-38.9
Nonfarm	5,854	5,860	5,900	3,608	6	0.1	40	0.9	-2,292	-38.8
Casey County Total	4,550	4,549	4,548	4,313	-1	-0.02	-1	-0.02	-235	-5.2
Outside SRB	4,290	4,268	4,246	4,027	-22	-0.5	-22	-0.5	-219	-5.2
Inside SRB	260	281	302	286	21	8.1	21	7.5	-16	-5.3
Urban	0	0	0	0	0	0	0	0	0	0
Rural	260	281	302	286	21	8.1	21	7.5	-16	-5.3
Farm	260	281	302	286	21	8.1	21	7.5	-16	-5.3
Nonfarm	0	0	0	0	0	0	0	0	0	0
Hardin County Total	18,388	19,704	21,019	24,778	1,316	7.2	1,315	6.7	3,759	17.9
Outside SRB	8,440	9,013	9,614	11,333	573	6.8	601	6.7	1,719	17.9
Inside SRB	9,948	10,691	11,405	15,445	743	7.5	714	6.7	2,040	17.9
Urban	8,692	9,341	9,965	11,747	649	7.5	624	6.7	1,782	17.9
Rural	1,256	1,350	1,440	1,698	94	7.5	90	6.7	258	17.9
Farm	372	379	404	476	7	1.9	25	6.6	72	17.8
Nonfarm	884	971	1,036	1,222	87	9.8	65	6.7	186	18.0
Henry County Total	3,927	4,096	4,264	5,244	169	4.3	168	4.1	980	23.0
Outside SRB	2,822	2,953	3,083	3,791	131	4.6	130	4.4	708	23.0
Inside SRB	1,105	1,143	1,181	1,453	38	3.4	38	3.3	272	23.0
Urban	0	0	0	0	0	0	0	0	0	0
Rural	1,105	1,143	1,181	1,453	38	3.4	38	3.3	272	23.0
Farm	249	280	311	303	31	12.4	31	11.1	72	23.2
Nonfarm	856	863	870	1,070	7	0.8	7	0.8	200	23.0

Exhibit 3.9t HOUSING UNIT TRENDS AND PROJECTIONS - SALT RIVER BASIN 1970-1995 (CONT'D)

Area	Housing Units at Year				Housing Unit Changes Between Year					
					1970-75		1975-80		1980-95	
	1970 ¹	1975 ²	1980 ²	1995 ²	Number	%	Number	%	Number	%
Jefferson County										
Total	226,493	244,049	261,604	325,009	17,556	7.8	17,555	7.2	63,405	24.2
Outside SRB	174,458	182,664	190,909	231,864	8,206	4.7	8,245	4.5	40,955	21.5
Inside SRB	52,035	61,385	70,695	93,145	9,350	18.6	9,310	15.2	22,450	31.8
Urban	45,072	53,723	62,975	84,188	8,651	19.2	9,252	17.2	21,213	33.7
Rural	6,963	7,662	7,720	8,957	679	10.0	58	0.8	1,237	16.0
Farm	1,657	1,668	1,492	1,367	11	0.7	-176	-10.6	-125	-8.4
Nonfarm	5,306	5,994	6,228	7,590	688	12.0	234	3.9	1,362	21.9
Larue County										
Total	3,641	3,761	3,881	4,705	120	3.3	120	3.2	824	21.2
Outside SRB	3,115	3,201	3,287	3,985	86	2.8	86	2.7	698	21.2
Inside SRB	526	560	594	720	34	6.5	34	6.1	126	21.2
Urban	0	0	0	0	0	0	0	0	0	0
Rural	526	560	594	720	34	6.5	34	6.1	126	21.2
Farm	409	442	475	576	33	8.1	33	7.5	101	21.3
Nonfarm	117	118	119	144	1	0.9	1	0.8	25	21.0
Marion County										
Total	4,767	4,927	5,087	5,936	160	3.4	160	3.2	894	16.7
Outside SRB	0	0	0	0	0	0	0	0	0	0
Inside SRB	4,767	4,927	5,087	5,936	160	3.4	160	3.2	894	16.7
Urban	1,746	1,793	1,841	2,424	47	2.7	48	2.7	583	31.7
Rural	3,021	3,134	3,246	3,512	113	3.7	112	3.6	266	8.2
Farm	1,373	1,470	1,566	1,694	97	7.1	96	6.5	128	8.2
Nonfarm	1,648	1,664	1,680	1,818	16	1.0	16	1.0	138	8.2
Mercer County										
Total	6,099	6,214	6,329	7,882	115	1.9	115	1.8	1,553	24.5
Outside SRB	1,258	1,379	1,463	1,860	121	9.6	84	6.1	397	27.1
Inside SRB	4,841	4,835	4,866	6,022	-6	-0.1	31	0.6	1,156	23.8
Urban	2,593	2,733	2,873	3,956	140	5.4	140	5.1	983	34.2
Rural	2,248	2,102	1,992	2,066	-146	-6.5	-109	-5.2	73	3.7
Farm	1,207	893	823	454	-314	-26.0	-70	-7.8	-369	-44.8
Nonfarm	1,041	1,209	1,170	1,612	168	16.1	-39	-3.2	442	37.8
Nelson County										
Total	6,742	7,025	7,307	8,429	283	4.2	282	4.0	1,122	15.4
Outside SRB	0	0	0	0	0	0	0	0	0	0
Inside SRB	6,742	7,025	7,307	8,429	283	4.2	282	4.0	1,122	15.4
Urban	1,833	1,855	1,877	2,469	22	1.2	22	1.2	592	31.5
Rural	4,909	5,170	5,430	5,960	261	5.3	260	5.0	530	9.8
Farm	1,426	1,518	1,609	936	92	6.5	91	6.0	-637	-41.8
Nonfarm	3,483	3,652	3,821	5,024	169	4.8	169	4.6	1,203	31.5
Oldham County										
Total	4,248	4,790	5,331	7,979	542	12.8	541	11.3	2,648	49.7
Outside SRB	3,479	3,929	4,161	6,228	450	12.9	232	5.9	2,067	49.7
Inside SRB	769	861	1,170	1,751	92	12.0	309	35.9	581	49.7
Urban	0	0	0	0	0	0	0	0	0	0
Rural	769	861	1,170	1,751	92	12.0	309	35.9	581	49.7
Farm	154	161	194	194	7	4.5	33	20.5	0	0
Nonfarm	615	700	976	1,557	85	13.8	276	39.4	581	59.5
Shelby County										
Total	6,450	6,675	6,899	8,295	225	34.9	224	3.4	1,396	20.2
Outside SRB	764	818	871	1,061	54	7.1	53	6.5	190	21.8
Inside SRB	5,686	5,857	6,028	7,234	171	3.0	171	2.9	1,206	20.0
Urban	1,649	1,756	1,863	2,862	107	6.5	107	6.1	999	53.6
Rural	4,037	4,101	4,165	4,372	64	1.6	64	1.6	207	11.1
Farm	1,662	1,760	1,858	1,858	98	5.9	98	5.6	0	0
Nonfarm	2,375	2,341	2,307	2,514	-34	-1.4	-34	-1.5	207	9.0

Exhibit 3.9t HOUSING UNIT TRENDS AND PROJECTIONS - SALT RIVER BASIN 1970-1995 (CONT'D)

Area	Housing Units at Year				Housing Unit Changes Between Year					
					1970-75		1975-80		1980-95	
	1970 ¹	1975 ²	1980 ²	1995 ²	Number	%	Number	%	Number	%
Spencer County										
Total	1,790	2,019	2,248	3,568	229	12.8	229	11.3	1,320	58.7
Outside SRB	0	0	0	0	0	0	0	0	0	0
Inside SRB	1,790	2,019	2,248	3,568	229	12.8	229	11.3	1,320	58.7
Urban	0	0	0	0	0	0	0	0	0	0
Rural	1,790	2,019	2,248	3,568	229	12.8	229	11.3	1,320	58.7
Farm	737	785	833	833	48	6.5	48	6.1	0	0
Nonfarm	1,053	1,234	1,415	2,735	181	17.2	181	14.7	1,320	93.3
Washington County										
Total	3,333	3,438	3,546	3,872	105	3.2	108	3.1	326	9.5
Outside SRB	0	0	0	0	0	0	0	0	0	0
Inside SRB	3,333	3,438	3,546	3,872	105	3.2	108	3.1	326	9.5
Urban	955	1,002	1,048	1,262	47	4.9	46	4.6	214	20.4
Rural	2,378	2,436	2,498	2,610	58	2.4	62	2.5	112	4.5
Farm	1,532	1,619	1,707	1,706	87	5.7	88	5.4	-1	-0.1
Nonfarm	846	817	791	904	-29	-3.4	-26	-3.2	113	14.3

¹Source: U.S. Department of Commerce, Bureau of the Census, 1970 Census of Housing, Kentucky.

²Source: Schimpeler-Corradino Associates.

Exhibit 3.10t NON-AGRICULTURAL EMPLOYMENT TRENDS AND PROJECTIONS - SALT RIVER BASIN 1970-1995

Area	Non-Agricultural Employment at Year				Employment Changes Between Year					
					1970-75		1975-80		1980-95	
	1970	1975	1980	1995	Number	%	Number	%	Number	%
Fifteen County Total	337,137	426,950	504,887	581,202	89,813	26.6	77,937	18.3	76,315	15.1
Outside SRB	189,164	229,237	260,745	257,526	40,073	21.2	31,508	13.7	-3,219	-1.2
Inside SRB	147,973	197,713	244,142	323,676	49,740	33.6	46,429	23.5	79,534	32.6
Anderson County	2,076	2,709	3,300	4,204	633	30.5	591	15.4	904	21.5
Outside SRB	329	333	422	515	4	1.2	89	26.7	93	22.0
Inside SRB	1,747	2,376	2,878	3,689	629	36.0	502		811	28.2
Boyle County	7,944	10,161	12,413	15,904	2,217	27.9	2,252	18.1	3,491	21.9
Outside SRB	1,600	2,360	2,891	3,626	760	47.5	531	22.5	735	25.4
Inside SRB	6,344	7,801	9,522	12,278	1,457	23.0	1,721	22.1	2,756	28.9
Bullitt County	2,594	8,882	15,169	34,962	6,288	242.4	6,287	70.8	19,794	130.5
Outside SRB	0	0	0	0	0	0	0	0	0	0
Inside SRB	2,594	8,882	15,169	34,962	6,288	242.4	6,287	70.8	19,794	130.5
Casey County	1,827	2,324	3,342	3,596	497	27.2	1,018	43.8	254	7.6
Outside SRB	1,827	2,324	3,342	3,596	497	27.2	1,018	43.8	254	7.6
Inside SRB	0	0	0	0	0	0	0	0	0	0
Hardin County	12,197	14,377	16,371	23,777	2,180	17.9	1,994	13.9	7,406	45.2
Outside SRB	5,142	6,576	7,488	10,876	1,434	27.9	912	13.9	3,388	45.2
Inside SRB	7,055	7,801	8,883	12,901	746	10.6	1,082	13.9	4,018	45.2
Henry County	1,790	3,115	4,510	5,545	1,325	74.0	1,395	44.8	1,035	22.9
Outside SRB	597	1,038	1,503	1,848	441	73.9	465	44.8	345	22.9
Inside SRB	1,193	2,077	3,007	3,697	884	74.1	930	44.8	690	22.9
Jefferson County	286,737	354,391	409,983	437,003	67,654	23.6	55,592	15.7	27,020	6.6
Outside SRB	175,378	209,799	235,740	222,435	34,421	19.6	25,941	12.4	-13,305	-5.6
Inside SRB	111,359	144,592	174,243	214,568	33,233	29.8	29,651	20.5	40,325	23.1
Larue County	1,559	2,122	2,730	4,300	563	36.1	608	28.7	1,570	57.5
Outside SRB	1,320	1,797	2,312	3,642	477	36.1	515	28.7	1,330	57.5
Inside SRB	329	325	418	658	86	36.0	93	28.6	240	57.4
Marion County	2,738	3,478	3,862	4,791	740	27.1	384	11.0	929	24.1
Outside SRB	0	0	0	0	0	0	0	0	0	0
Inside SRB	2,738	3,478	3,862	4,791	740	27.1	384	11.0	929	24.1
Mercer County	3,859	4,897	5,970	7,609	1,038	26.9	1,073	17.9	1,639	21.5
Outside SRB	796	1,120	1,381	1,797	324	40.7	261	23.3	416	30.1
Inside SRB	3,063	3,777	4,589	5,812	714	23.3	812	21.5	1,223	26.7
Nelson County	4,659	5,902	7,186	10,603	1,243	26.7	1,284	21.8	3,417	47.6
Outside SRB	0	0	0	0	0	0	0	0	0	0
Inside SRB	4,659	5,902	7,186	10,603	1,243	26.7	1,284	21.8	3,417	47.6
Oldham County	2,377	4,466	6,560	10,903	2,089	88.0	2,094	46.8	4,343	66.2
Outside SRB	1,950	3,572	5,256	8,722	1,622	83.2	1,684	47.1	3,466	65.9
Inside SRB	427	894	1,304	2,181	467	109.4	410	45.9	877	67.3
Shelby County	4,500	6,350	8,200	9,373	1,850	41.1	1,850	29.1	1,173	14.3
Outside SRB	225	318	410	469	93	41.3	92	28.9	59	14.3
Inside SRB	4,275	6,032	7,790	8,904	1,757	41.1	1,758	29.1	1,114	14.3
Spencer County	457	1,459	2,460	4,443	1,002	219.3	1,002	68.6	1,983	80.6
Outside SRB	0	0	0	0	0	0	0	0	0	0
Inside SRB	457	1,459	2,460	4,443	1,002	219.3	1,002	68.6	1,983	80.6
Washington County	1,823	2,317	2,831	4,189	494	27.1	514	22.2	1,358	48.0
Outside SRB	0	0	0	0	0	0	0	0	0	0
Inside SRB	1,823	2,317	2,831	4,189	494	27.1	514	22.2	1,358	48.0

Source: Kentucky Department of Commerce and Schimpeler-Corradino Associates.

instance, is projected to increase its share of non-agricultural employment from 1.8 percent in 1970 to 10.8 percent by 1995 and assume the position of second in overall basin employment.

Exhibit 3.11t NONAGRICULTURAL EMPLOYMENT - COUNTY PERCENT OF SALT RIVER BASIN

Area	% of Basin Nonagricultural Employment at Year			
	1970	1975	1980	1995
Salt River Basin	100.0	100.0	100.0	100.0
Anderson County	1.2	1.2	1.2	1.1
Boyle County	4.3	3.9	3.9	3.8
Bullitt County	1.8	4.5	6.2	10.8
Casey County	0.0	0.0	0.0	0.0
Hardin County	4.8	3.9	3.6	3.9
Henry County	0.8	1.0	1.2	1.1
Jefferson County	75.2	73.1	71.4	66.3
Larue County	0.2	0.2	0.2	0.2
Marion County	1.8	1.8	1.6	1.5
Mercer County	2.1	1.9	1.9	1.8
Nelson County	3.1	3.0	2.9	3.3
Oldham County	0.3	0.5	0.5	0.7
Shelby County	2.9	3.1	3.2	2.8
Spencer County	0.3	0.7	0.1	1.4
Washington County	1.2	1.2	1.2	1.3

LAND USE

Introduction

The relationship between land use and environmental quality has long been recognized by land use planners as well as administrators of local, state, and federal environmental protection programs. Simply stated, land can be categorized according to its use and related human activity generated by its use. Each specific use or activity represents a unique impact on the quality of receiving waters. The impact of specific land uses are typically realized as either point or nonpoint sources of water pollution. Point sources of pollution can generally be traced directly to three principal types of intensive land use: residential, commercial and industrial. On the other hand, nonpoint sources of pollution are usually associated with the less intensive uses of agriculture, silviculture, and resource extraction.

Section 303(e) of the Water Pollution Control Act Amendment of 1972 requires that each of these land uses be identified and an assessment of their current and potential impact upon all basin streams be

conducted. This section, therefore, will provide an identification of existing land uses within the Salt River Basin and will correlate projected increases of population, employment, and housing to increases in associated land uses through 1995.

The land use analysis included herein is not intended to be a detailed land use study or plan. It will not be of sufficient detail to serve as the basis for localized land use planning decisions. Rather, this section of the report will provide a generalized, "broad brush" land use description of the fifteen-county region comprising the Salt River Basin. While detailed Area Development District land use plans were consulted, the unique requirements of basin planning made duplication of the information contained within those plans inappropriate. Nevertheless, the ADD land use plans were an important input and helped to identify the critical water-related and water-dependent land uses. A graphic representation of the distribution of land uses considered within this report is given in Exhibit 3.13m

County Surface Areas

Total surface areas for each of the fifteen counties comprising the Salt River Basin were taken from the U.S. Bureau of the Census "Area Measurement Report, 1970." These figures included both land and water areas within each county. Many counties along the basin perimeter, however, are dissected by the basin division line, requiring further disaggregation of the county area totals and identifying the area inclusive of the Salt River Basin. For this step, maps prepared by the Army Map Service at a scale of 1:250,000 (1" = +4 miles) were planimeted and the area included within the basin calculated. These areas appear in Exhibits 3.12t, A-6t, and A-7t as "Outside SRB" and "Inside SRB" figures. Communication between consultants preparing contiguous basin plans served to minimize any gross inconsistencies with overall county totals and to prevent overlap in reporting data during the disaggregation process.

Agriculture

In the context of this report, agricultural land use refers to cropland, pastures, fallow fields, and vacant or nonutilized acreage. Within the Salt River Basin, agriculture is the predominant land use and represents approximately 62 percent of the total basin area. Because of its wide distribution, agricultural land use represents a significant nonpoint source of pollution. Drainage and water flow over cropland and plowed fields serve to transport soil particles, salts, nutrients, and pesticides from the land into the surface water. Where soil slopes are steep or where agricultural activity is intense, soil erosion and subsequent stream sedimentation can become critical water quality problems. Agricultural land is dispersed over nearly every section of the Salt River Basin, but is concentrated primarily within the counties of Shelby, Spencer, Washington, and Marion.

Reported decreases in agricultural land use throughout the planning period are the result of corresponding increases in the developed land use categories such as Urban and Construction. It was assumed that increases in these categories would

Exhibit 3.12t LAND USE TRENDS AND PROJECTIONS - SALT RIVER BASIN 1970-1995

Area	Land Area at Year (Acres)				% of Area Inside SRB at Year			
	1970	1975	1980	1995	1970	1975	1980	1995
Fifteen County Total	3,066,240	3,066,240	3,066,240	3,066,240	-	-	-	-
Outside SRB	1,133,376	1,133,376	1,133,376	1,133,376	-	-	-	-
Inside SRB	1,932,864	1,932,864	1,932,864	1,932,864	100.0	100.0	100.0	100.0
Agricultural/Vacant	1,205,888	1,193,636	1,186,182	1,163,040	62.3	61.8	61.4	60.2
Silviculture	661,635	656,430	650,597	630,441	34.1	34.0	33.7	32.7
Mining	251	356	464	805	0.0	0.0	0.0	0.0
Urban	68,265	79,600	93,206	136,046	3.5	4.1	4.8	7.0
Construction	2,440	2,842	2,415	2,415	0.1	0.1	0.1	0.1
Urban	2,264	2,724	2,208	2,208	-	-	-	-
Nonurban	176	118	207	207	-	-	-	-
Anderson County	131,840	131,840	131,840	131,840	-	-	-	-
Outside SRB	19,520	19,520	19,520	19,520	-	-	-	-
Inside SRB	112,320	112,320	112,320	112,320	100.0	100.0	100.0	100.0
Agricultural/Vacant	85,542	85,451	85,318	84,849	76.2	76.1	76.0	75.5
Silviculture	25,757	25,525	25,485	25,344	22.8	22.7	22.7	22.6
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	1,158	1,305	1,469	2,079	1.0	1.2	1.3	1.9
Construction	45	39	48	48	0.0	0.0	0.0	0.0
Urban	29	33	41	41	-	-	-	-
Nonurban	16	6	7	7	-	-	-	-
Boyle County	117,760	117,760	117,760	117,760	-	-	-	-
Outside SRB	45,248	45,248	45,248	45,248	-	-	-	-
Inside SRB	72,512	72,512	72,512	72,512	100.0	100.0	100.0	100.0
Agricultural/Vacant	57,983	57,983	57,988	57,980	80.0	80.0	80.0	80.0
Silviculture	14,496	14,496	14,497	14,495	20.0	20.0	20.0	20.0
Mining	16	21	26	36	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	17	12	1	1	0.0	0.0	0.0	0.0
Urban	0	0	0	0	-	-	-	-
Nonurban	17	12	1	1	-	-	-	-
Bullitt County	192,000	192,000	192,000	192,000	-	-	-	-
Outside SRB	0	0	0	0	-	-	-	-
Inside SRB	192,000	192,000	192,000	192,000	100.0	100.0	100.0	100.0
Agricultural/Vacant	84,755	83,936	82,913	76,180	44.1	43.7	43.2	39.7
Silviculture	106,000	104,981	102,703	95,275	55.2	54.7	54.0	49.6
Mining	20	68	116	267	0.0	0.0	0.1	0.2
Urban	896	2,534	4,917	19,927	0.5	1.3	2.6	10.4
Construction	329	481	351	351	0.2	0.3	0.1	0.1
Urban	328	477	351	351	-	-	-	-
Nonurban	1	4	0	0	-	-	-	-
Casey County	278,400	278,400	278,400	278,400	-	-	-	-
Outside SRB	230,272	230,272	290,272	230,272	-	-	-	-
Inside SRB	48,128	48,128	48,128	48,128	100.0	100.0	100.0	100.0
Agricultural/Vacant	0	0	0	0	0	0	0	0
Silviculture	48,128	48,128	48,128	48,128	100.0	100.0	100.0	100.0
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	-	-	-	-
Nonurban	0	0	0	0	-	-	-	-
Hardin County	394,880	394,880	394,880	394,880	-	-	-	-
Outside SRB	289,280	289,280	289,280	289,280	-	-	-	-
Inside SRB	105,600	105,600	105,600	105,600	100.0	100.0	100.0	100.0
Agricultural/Vacant	13,910	13,877	13,749	13,518	13.2	13.1	13.0	12.8
Silviculture	78,823	78,639	77,910	75,672	74.6	74.5	73.8	71.7
Mining	21	23	27	40	0.0	0.0	0.0	0.0
Urban	12,826	12,883	13,738	16,194	12.2	12.2	13.0	15.0
Construction	20	178	176	176	0.0	0.2	0.2	0.2
Urban	11	171	164	164	-	-	-	-
Nonurban	9	7	12	12	-	-	-	-

Exhibit 3.12t LAND USE TRENDS AND PROJECTIONS - SALT RIVER BASIN 1970-1995 (CONT'D)

Area	Land Area at Year (Acres)				% of Area Inside SRB at Year			
	1970	1975	1980	1995	1970	1975	1980	1995
Henry County	184,960	184,960	184,960	184,960	-	-	-	-
Outside SRB	196,600	169,600	169,600	169,600	-	-	-	-
Inside SRB	15,360	15,360	15,360	15,360	100.0	100.0	100.0	100.0
Agricultural/Vacant	15,359	15,359	15,353	15,353	100.0	100.0	100.0	100.0
Silviculture	0	0	0	0	0.0	0.0	0.0	0.0
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	1	1	7	7	0.0	0.0	0.0	0.0
Urban	0	0	0	0	-	-	-	-
Nonurban	1	1	7	7	-	-	-	-
Jefferson County	247,680	247,680	247,680	247,680	-	-	-	-
Outside SRB	126,848	126,848	126,848	126,848	-	-	-	-
Inside SRB	120,832	120,832	120,832	120,832	100.0	100.0	100.0	100.0
Agricultural/Vacant	44,270	39,017	33,698	20,928	36.6	32.3	29.9	17.3
Silviculture	29,513	26,012	22,465	13,952	24.4	21.5	18.6	11.6
Mining	27	27	27	27	0.0	0.0	0.0	0.0
Urban	45,218	53,987	63,178	84,461	37.5	44.6	52.3	69.9
Construction	1,804	1,879	1,464	1,464	1.5	1.6	1.2	1.2
Urban	1,735	1,856	1,419	1,419	-	-	-	-
Nonurban	69	23	45	45	-	-	-	-
Larue County	166,400	166,400	166,400	166,400	-	-	-	-
Outside SRB	69,504	69,504	69,504	69,504	-	-	-	-
Inside SRB	96,896	96,896	96,896	96,896	100.0	100.0	100.0	100.0
Agricultural/Vacant	46,766	46,766	46,765	46,765	48.3	48.3	48.3	48.3
Silviculture	50,130	50,130	50,130	50,130	51.7	51.7	51.7	51.7
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	0	0	1	1	0.0	0.0	0.0	0.0
Urban	0	0	0	0	-	-	-	-
Nonurban	0	0	1	1	-	-	-	-
Mercer County	165,760	165,760	176,760	176,760	-	-	-	-
Outside SRB	59,776	59,776	59,776	59,776	-	-	-	-
Inside SRB	105,984	105,984	105,984	105,984	100.0	100.0	100.0	100.0
Agricultural/Vacant	94,933	94,929	94,663	93,736	89.6	89.6	89.3	88.4
Silviculture	8,800	8,592	8,568	8,484	8.3	8.1	8.1	8.0
Mining	8	10	12	17	0.0	0.0	0.0	0.0
Urban	2,182	2,402	2,659	3,665	2.1	2.3	2.5	3.5
Construction	61	51	82	82	0.0	0.0	0.1	0.1
Urban	44	51	67	67	-	-	-	-
Nonurban	17	0	15	15	-	-	-	-
Marion County	219,520	219,520	219,520	219,520	-	-	-	-
Outside SRB	0	0	0	0	-	-	-	-
Inside SRB	219,520	219,520	219,520	219,520	100.0	100.0	100.0	100.0
Agricultural/Vacant	134,894	134,870	134,749	134,328	61.5	61.4	61.4	61.2
Silviculture	82,800	82,662	82,588	82,330	31.7	37.7	37.6	37.5
Mining	4	5	6	11	0.0	0.0	0.0	0.0
Urban	1,789	1,944	2,127	2,801	0.8	0.9	1.0	1.3
Construction	33	39	50	50	0.0	0.0	0.0	0.0
Urban	31	37	45	45	-	-	-	-
Nonurban	2	2	5	5	-	-	-	-
Nelson County	279,680	279,680	279,680	279,680	-	-	-	-
Outside SRB	0	0	0	0	-	-	-	-
Inside SRB	279,680	279,680	279,680	279,680	100.0	100.0	100.0	100.0
Agricultural/Vacant	160,412	160,353	160,218	159,797	57.4	57.3	57.3	57.1
Silviculture	117,200	117,075	116,975	116,668	41.9	41.9	41.8	41.7
Mining	137	175	213	347	0.1	0.1	0.1	0.1
Urban	1,885	2,026	2,194	2,788	0.6	0.7	0.8	1.1
Construction	46	51	80	80	0.0	0.0	0.0	0.0
Urban	29	34	40	40	-	-	-	-
Nonurban	17	17	40	40	-	-	-	-

Exhibit 3.12t LAND USE TRENDS AND PROJECTIONS - SALT RIVER BASIN 1970-1995 (CONT'D)

Area	Land Area at Year (Acres)				% of Area Inside SRB at Year			
	1970	1975	1980	1995	1970	1975	1980	1995
Oldham County	121,600	121,600	121,600	121,600	-	-	-	-
Outside SRB	84,736	84,736	84,736	84,736	-	-	-	-
Inside SRB	36,864	36,864	36,864	36,864	100.0	100.0	100.0	100.0
Agricultural/Vacant	34,849	34,836	34,837	34,826	94.5	94.5	94.5	94.5
Silviculture	2,000	1,988	1,989	1,988	5.5	5.4	5.4	5.4
Mining	6	12	19	31	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	9	28	19	19	0.0	0.1	0.1	0.0
Urban	0	0	0	0	-	-	-	-
Nonurban	9	28	19	19	-	-	-	-
Shelby County	245,760	245,760	245,760	245,760	-	-	-	-
Outside SRB	38,592	38,592	38,592	38,592	-	-	-	-
Inside SRB	207,168	207,168	207,168	207,168	100.0	100.0	100.0	100.0
Agricultural/Vacant	179,300	179,025	178,784	177,927	86.6	86.4	86.3	85.9
Silviculture	26,470	26,515	26,479	26,352	12.8	12.8	12.8	12.7
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	1,353	1,577	1,832	2,816	0.6	0.8	0.9	1.4
Construction	45	51	73	66	0.0	0.0	0.0	0.0
Urban	45	51	66	66	-	-	-	-
Nonurban	0	0	7	7	-	-	-	-
Spencer County	123,520	123,520	123,520	123,520	-	-	-	-
Outside SRB	0	0	0	0	-	-	-	-
Inside SRB	123,520	123,520	123,520	123,520	100.0	100.0	100.0	100.0
Agricultural/Vacant	98,802	98,902	98,876	98,876	80.1	80.1	80.1	80.1
Silviculture	24,600	24,600	24,600	24,600	19.9	19.9	19.9	19.9
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	18	18	44	44	0.0	0.0	0.0	0.0
Urban	0	0	0	0	-	-	-	-
Nonurban	18	18	44	44	-	-	-	-
Washington County	196,480	196,480	196,480	196,480	-	-	-	-
Outside SRB	0	0	0	0	-	-	-	-
Inside SRB	196,480	196,480	196,480	196,480	100.0	100.0	100.0	100.0
Agricultural/Vacant	148,398	148,332	148,271	148,094	75.5	75.5	75.5	75.4
Silviculture	47,100	47,099	47,080	47,023	24.0	24.0	24.0	23.9
Mining	12	15	18	29	0.0	0.0	0.0	0.0
Urban	958	1,020	1,092	1,315	0.5	0.5	0.5	0.7
Construction	12	14	19	19	0.0	0.0	0.0	0.0
Urban	12	14	15	15	-	-	-	-
Nonurban	0	0	4	4	-	-	-	-

result in an infringement on existing, less intense land uses such as agriculture and silviculture.

Silviculture

Typically, silviculture refers to forestry and the active management and harvesting of forest crops. However, due to the difficulty in identifying areas of active forestry and the transitory nature of that activity, silviculture was expanded to include all forests, regardless of whether commercial forestry was present. General concentrations of forested areas were identified from U.S. Geological Survey Maps and maps prepared by the Army Mapping Service and are represented in green in Exhibit 3.13m. Estimates of total silviculture acreages are provided in Exhibit 3.12t by county and for the Salt River Basin. Silviculture land acreage was assumed to remain constant over the planning period except where increases of developed land were projected. Like agricultural land, it was assumed that increases in developed land areas would ultimately result in the destruction of a proportionate amount of forested areas.

Mining

Mining or resource extraction within the Salt River Basin is generally limited to quarrying of sand, gravel, and clay. Information obtained from the Kentucky Department of Reclamation and permits of individual mining operations enabled a relatively accurate estimate of existing mining acreage. Projections of future mining activity, however, were primarily based upon county employment projections for mining and quarrying through 1995. Based upon current acreage and employment data for mining and quarrying, an estimate of the number of employees per acre of licensed mining was calculated for each county. This factor was then applied to the projected employment for the years 1975, 1980, and 1995 to obtain an estimate of the number of acres disturbed by mining for the same years. Through this process, the land area disturbed by mining activity within the basin is projected to increase by approximately 220 percent between 1970 and 1995.

Materials such as crushed stone, gravel, sand, and clay account for nearly all materials mined or quarried within the Salt River Basin. Demand for these materials is tied directly to areas realizing ongoing construction, such as metropolitan areas or major urban centers. As Exhibit 3.13m discloses mining and quarrying sites are typically located near the heavily populated areas of Jefferson, Bullitt, and Hardin Counties and near the principal population centers of Nelson, Marion, Washington, Boyle, and Mercer Counties. As development increases throughout the basin and the demand for building material increases proportionately, we will the number of acres of land devoted to mining and quarrying.

Urban

Determination of urban land use is important for two reasons: First, it provides an estimate of storm-water runoff, typical of highly developed areas, and its impact upon the quantity and quality of the receiving streams. Second, it provides insight into the feasibility of providing municipal

wastewater treatment facilities. Estimates of urban land use were derived from projections of urban population reported in Exhibit 3.8t.

A survey of 25 Salt River Basin cities and their densities resulted in an average of 3.09 person per acre. This average density was then applied to the projected urban population to calculate future urban land acreage. It was assumed that increases in urban acreage would occur in or contiguous with areas of existing urbanization. Exhibit 3.13m shows the general distribution of the more densely developed or urbanized areas throughout the basin.

Construction

Soil erosion at construction sites has long been recognized as a serious problem, particularly on sites where large scale excavation is underway. During periods of construction, land surfaces are commonly barren of ground cover and thus highly susceptible to soil erosion and water runoff.

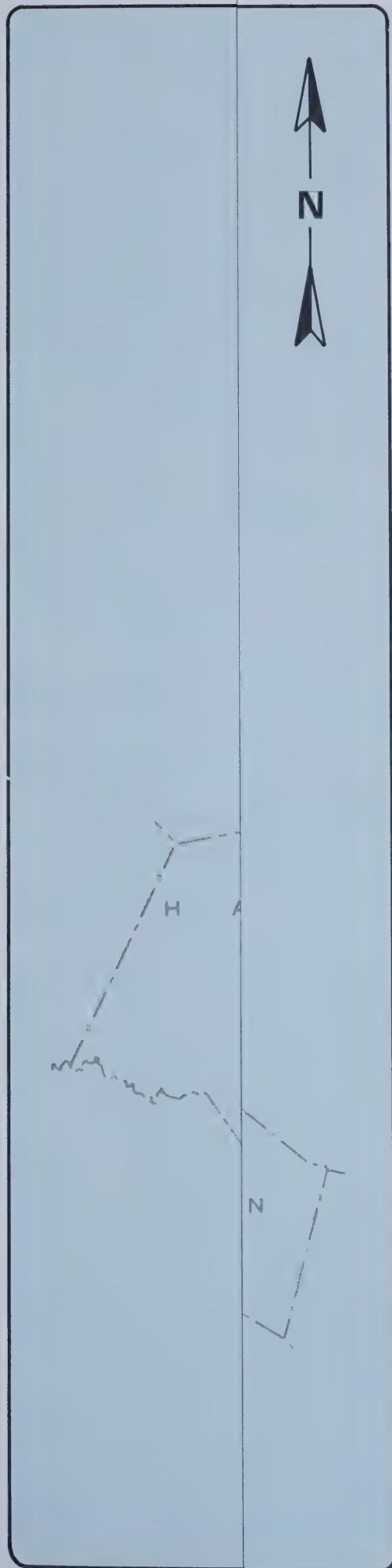
As one input in the calculation of total nonpoint pollution loadings, the number of acres under construction for the years 1970, 1975, 1980, and 1995 are provided in Exhibit 3.8t. These estimates are for construction activity only and represent the number of acres affected only in the reported year. An additional breakdown of total construction into urban and nonurban construction is also provided.

Urban construction was calculated based upon a person per acre factor of 3.09. This figure represents the average density of 25 existing urban areas within the Salt River Basin and includes residential, industrial, commercial, public, and recreational land uses. The annual increase in urban population between the years 1970-1975, 1975-1980 and 1980-1995 was determined and then multiplied by the density factor to obtain an annualized estimate of urban construction.

Nonurban construction relates specifically to residential development that occurs outside of existing urban areas but at a density that is similar to that of an urbanized area. Typically, these areas are small subdivisions which are developed along county roads or contiguous with urbanized and incorporated areas. Determination of construction acreage within this category was based upon county projections of nonfarm housing units reported in Exhibit 3.9t. From these projections it was assumed that nonfarm type housing would develop at an average density of two dwelling units per acre or one half acre per unit. This average density factor was then applied to the annualized increases in nonfarm housing units for the periods 1970-1975, 1975-1980, and 1980-1995 to give the "at year" acreages of construction.

BASIN WASTEWATER CONTROL

This section describes common methods of wastewater treatment and disposal for various population densities and industrial and agricultural operations. Specific sources are listed and located in Chapter IV.



SALT RIVER BASIN



EXHIBIT 3.13m

EXISTING LAND USE

LEGEND

-  Silviculture
-  Mining
-  Urban
-  Agricultural/Vacant



SCALE IN MILES

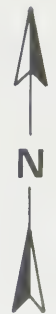
KENTUCKY WATER QUALITY MANAGEMENT PLAN

Prepared for Division of Water Quality

KENTUCKY DEPARTMENT FOR NATURAL RESOURCES
AND ENVIRONMENTAL PROTECTION

SCHIMPELER•CORRADINO ASSOCIATES
engineering & planning consultants
1429 S. Third Street
Louisville, Kentucky 40208
502/636-3555





SALT RIVER BASIN



EXHIBIT 3.13m

EXISTING LAND USE

LEGEND

- Silviculture
- Mining
- Urban
- Agricultural/Vacant



SCALE IN MILES

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For purposes of this report, population within developed areas were classified as two types: "municipal" and "domestic". "Municipal" is an area of very dense population, usually including an industry. There are approximately 23 such areas in the Basin. Of this number, 15 have publicly owned collection and treatment systems; the others depend on privately owned septic tanks. Wastewater treatment plants used by these systems are of the extended air or trickling filter types, which produce a secondary level of treatment. Municipal effluents affect 67 miles (11.2 percent) of streams in the Basin. Sludge is dried in drying beds, then landfilled or used by local landowners as soil conditioner.

"Domestic" refers to an area of medium density population, usually a housing project such as a subdivision. Subdivisions in this basin are customarily serviced by a privately owned wastewater collection system and an extended air package treatment plant that produces a secondary level of treatment. However, several subdivisions in the Floyds Fork Basin have added lagoons to their extended air package treatment plants to obtain a tertiary level of treatment. Effluent from domestic sources affects 89.5 miles (15.0 percent) of streams in the Salt River Basin. Sludge is dried, then landfilled.

Industrial sources in the basin consist mainly of distilleries. Wastewaters from these sources are treated by the industries using aerated lagoons that produce an effluent of slightly higher quality than the secondary level of treatment. The few industries in the Basin affect only 9.5 miles (1.7 percent) of the streams.

The primary nonpoint source of pollution in the basin is soil erosion, notably the sediment pollution from field and stream bank erosion. Approximately 100 square miles of land associated with agricultural crops have high erosion rates, and 50 miles of stream banks are critical sediment sources.

In summary, effluent from wastewater treatment plants in the Basin affects 166 stream miles or 28 percent of the streams. The basic level of treatment is secondary, however there are several tertiary package treatment plants. Disposal of sludge is usually by drying in drying beds, then landfilling. Occasionally the dried sludge is used on farmland as a soil conditioner.

WATER QUALITY STANDARDS

The primary goal of the Federal Water Pollution Control Act Amendments of 1972 (P.L. 92-500) is:

"To achieve wherever possible, by July 1, 1983, water that is clean enough for swimming and other recreational uses, and clean enough for the protection and propagation of fish, shellfish, and wildlife."

To assist in achieving this goal, the Commonwealth has, with the approval of the U.S. Environmental Protection Agency, established water quality standards. The water quality standards established by the Commonwealth are contained in the following documents:

- WP-4-1, Water Quality Standards for the Commonwealth of Kentucky, July 23, 1971.
- Antidegradation Statement, March 5, 1971.
- WP-6-2, Use Classification of Waters, Treatment Requirements, and Compliance, November 5, 1973.
- Policy for Addition of Streams not shown on the Map, Streams of Kentucky, February 6, 1974.

The U.S. Environmental Protection Agency has established regulations (39 FR 34574, September 26, 1974) on water quality standards for Kentucky utilizing the aforementioned documents with revisions to WP-4-1 (add Section 6) and WP-6-2 (revise Section 1(2)).

The Kentucky Department for Natural Resources and Environmental Protection, Division of Water (Quality), Bureau of Environmental Quality, has proposed Kentucky Water Quality Control Regulations (Administrative Register of Kentucky, Volume II, No. 9, April 1, 1975) which will, when enacted, update and summarize the water quality control regulations of the Commonwealth.

In general, the current water quality standards are:

Dissolved Oxygen: 5.0 mg/l
 Temperature: $\leq 5^{\circ}\text{F}$ increase above natural
 pH: 5.0 - 9.0
 Coliform Bacteria: 1,000/100 ml (Total)
 If the level of total coliform is exceeded, then a fecal coliform standard shall be used for all effluent discharges in the area of influence.
 Fecal Coliform Bacteria: 200/100 ml (May - October); 400/100 ml (November - April).

The water quality management strategy recommended by this basin planning effort is intended to attain and maintain, in the most cost-effective manner, the water quality standards referenced and summarized above.

EXISTING WATER QUALITY

Streams in the Salt River Basin generally have zero flow or near zero flow at some time of the year as illustrated by the hydrographs in Appendix A-1. This low flow contributes to problems with organic waste loads and sediment, and poor water quality can be expected downstream from wastewater sources. Although water quality sampling data throughout most of the Salt River Basin with the exception of the Jefferson County portions was limited, water quality modeling undertaken in the River Basin Management Planning provided a preliminary identification of water quality problem areas. Low dissolved oxygen downstream from existing sources was determined to be the major cause of water quality violations. Based upon water quality sampling, the Pond Creek area in Jefferson County has a severe water quality problem and portions of the Floyds Fork area have significant water quality problems.

There is only one water quality sampling station in the Salt River Basin with sufficient data to describe historical water quality. It is located at Shepherdsville, Kentucky 23 miles upstream from the mouth of the Salt River and represents 41 percent (1,200 square miles) of the Salt River drainage basin area. With the exception of the Jefferson County area, it is believed that the water quality measured at this station is representative of the water quality in most of the surface streams in the basin. The sampling station at Shepherdsville described a high bicarbonate hardness primarily due to the limestone bedrock of the area. Other chemical water quality parameters of the surface water are considered to meet applicable water quality standards. In addition, trace elements, such as "heavy" metals, were measured and determined to be within Kentucky and Federal Water Quality Standards.

Biochemical degradable waste loads usually decrease the dissolved oxygen in a stream downstream from a wastewater source. When such waste loads decrease the dissolved oxygen levels below the Kentucky Water Quality Standard of 5 mg/l, a water quality violation occurs. Utilizing a water quality model developed for River Basin Management Planning in Kentucky, 596 miles of streams in the Salt River Basin were evaluated. The model estimated that 166 stream miles (28 percent of the miles modeled) do not meet dissolved oxygen standards during low-flow conditions. Dissolved oxygen sampling performed for the Floyds Fork and Pond Creek areas of Jefferson County identified severe water quality violations in the Pond Creek area. Because of these measured and expected water quality violations, existing treatment facilities serving municipal, industrial, subdivision, and other wastewater generating sources will require upgrading to meet the dissolved oxygen water quality standard. Another abatement alternative is the elimination or combination of existing sources and rerouting of wastewaters to another acceptable point on the stream, or another stream.

The Pond Creek and Floyds Fork areas in Jefferson County include highly populated areas served by numerous package treatment plants. The water quality sampling provided by the Louisville 201 Facilities Plan included additional, more detailed water quality data. The entire length of Pond Creek consistently revealed violations in its dissolved solids level, fecal and total coliform content, and dissolved oxygen level. Receiving streams in Jeffersontown and Middletown areas of the Floyds Fork Basin exhibited high total coliform, dissolved solids, and pH levels. A substantial portion of Cedar Creek also exhibited high pH, total and fecal coliform, and dissolved solids levels. Since the Floyds Fork portion of Jefferson County will likely experience rapid development in the near future, these segments should be considered significant water quality problem areas.

CHAPTER IV:

WATER QUALITY MANAGEMENT STATUS

INTRODUCTION

The purpose of this chapter is to describe the current status of water quality management for the Salt River Basin, including an identification of water quality problem areas, significant sources of water pollution, and available wastewater control alternatives. Subareas (segments) are classified according to their water quality needs; significant municipal, domestic, industrial, and nonpoint sources of water pollution are tabulated; and available wastewater control and treatment plant residual alternatives are described and tabulated.

The Salt River Basin has been divided into 37 segments; "segment" is defined as a portion of a basin, the surface waters of which have common hydrologic characteristics, common natural environmental features, and common external stresses such as the discharge of pollutants. The 37 segments were then analyzed and classified as "water quality" or "effluent limitation" segments as required by Section 303(e) of the Federal Water Pollution Control Act, as amended (P.L. 92-500) and as defined below:

Water Quality Segment. Any segment where it is known that water quality does not meet applicable water quality standards and/or is not expected to meet applicable water quality standards even after the application of the effluent limitations required by sections 301(b)(1)(A) and 301(b)(1)(B) of the Federal Water Pollution Control Act.

Effluent Limitation Segment. Any segment where it is known that water quality is meeting and will continue to meet applicable water quality standards after the application of the effluent limitations required by sections 301(b)(1)(A) and 301(b)(1)(B) of the Federal Water Pollution Control Act.

The federal Act states that classification of segments shall be based upon measured in-stream water quality (where available), shall include the specific water quality parameters requiring consideration, shall reflect any necessary allowance for anticipated economic and demographic growth over at least a five-year period, and shall be used in establishing state priorities in accordance with segment priority ranking regulations.

The significant dischargers are defined as any point source discharge for which timely management action must be taken in order to meet the water quality objectives for the basin within the period of the operative basin plan. A significant discharge is a point source of water pollution that causes serious or critical water quality problems relative to the segment to which it discharges. This chapter further defines significant dischargers according to their origin as municipal, domestic, industrial, and nonpoint dischargers. Municipal dischargers include wastewater treatment plants serving a municipality or community that is eligible for EPA construction grants. Domestic dischargers usually

include package treatment plants that serve commercial establishments, subdivisions, institutions, recreational areas, and other areas not classified as municipal or industrial. Industrial dischargers are sources of wastewater discharge classified as industrial under the Standard Industrial Classification (SIC) code. Nonpoint dischargers are area sources such as urban and agricultural runoff that enter the streams over a length of stream rather than at one single effluent point. For purposes of this chapter, significant nonpoint sources are defined as concentrated areas of nonpoint pollution that could be considered a point source.

Wastewater collection, treatment, and control alternatives available to dischargers to meet federal and state requirements are described in this chapter. Minimum effluent standards provided by the Kentucky Division of Water (Quality) and the U.S. EPA are described and various wastewater treatment alternatives for achieving these standards and water quality segment requirements are given. As discussed in Chapter III, existing wastewater treatment facilities basically utilize "secondary" treatment, which will be inadequate for the majority of the Salt River Basin.

Residuals or solid waste resulting from wastewater treatment will have to be disposed of in an acceptable manner. This chapter characterizes the general types of solid wastes and the quantities of solid waste required to be treated, transported, and disposed of. Available permitted sanitary landfills in the Salt River Basin are identified as one alternative for residual disposal.

In summary, this chapter describes the water quality problem areas, the sources of the problems, and alternatives for treatment and disposal of wastewater and solids. It identifies the problems and their causes, and establishes water quality management priorities that are the basis for Chapter V, Basinwide Management Plan.

SEGMENT CLASSIFICATION

The classification and ranking of segments by priorities as required by 40 CFR 130.41 were based on an assessment of the water quality problems and causes of these problems, taking into account (1) severity of pollution problems, (2) population affected, (3) need for preservation of high quality waters, (4) national priorities as determined by the EPA Administrator, and (5) additional factors identified by the state in its priority system. The primary objective of the procedure for assigning priority values to each segment is to derive a systematic means of comparing segments in different locations and to produce a priority list for guiding management decisions. The process is as objective and quantifiable as possible, and should be reproducible on the basis of the given data. Since segment priority is a key factor in the allocation of federal funds for municipal wastewater abatement activities, supporting data and methodology are described in detail in this section.

The classification of segments as "water quality" or "effluent limitation" segments was based upon current in-stream water quality data, water quality modeling that estimated the assimilative capacity of receiving streams, future wasteloads, and effluent limitations required by Sections 301 (b) (1) (A) and 301 (b) (1) (B) of the Federal Water Pollution Control Act.

Under these regulations, all publicly owned treatment works must comply with effluent limitations based upon secondary treatment as defined by the U.S. Environmental Protection Agency. Currently "secondary treatment" is defined as:

Biochemical Oxygen Demand
30 mg/l (monthly average)

Suspended Solids
30 mg/l (monthly average)

Fecal Coliform Bacteria
200/100 m/ (monthly geometric average)

Hydrogen Ion Concentration (pH)
6.0 - 9.0

All wastewater point sources, other than publicly owned treatment works, must comply with effluent limitations consistent with (1) the application of the "best practicable control technology currently available" or (2) applicable pretreatment requirements, in the case of discharge into a publicly owned treatment works. The best practicable control technology currently available (BPT) is defined by EPA as identical to the "secondary treatment" required of municipal wastewater discharges. Pretreatment requirements for Standard Industrial Classification (SIC) categories have been prepared by EPA and reported in the Federal Register. Thus, a segment possessing streams not meeting water quality standards based upon in-stream sampling records and water quality modeling, or discharges not meeting effluent standards, was classified as a "water quality segment." However, if streams and discharges in a segment met water quality and effluent standards, then the segment was classified as "effluent limited." Segments for the Salt River Basin are classified in Exhibit 4.1t.

The ranking of segments in order of priority, based upon federal requirements as given, follows:

$$\text{Segment Priority} = \frac{P}{1000} + (\text{BPD}_5 + \text{SS} + \text{NH}_3 + \text{PO}_4 + \text{Metals}) + T + \text{NP}$$

The formula is explained a factor at a time as follows:

$$\text{Population Affected} = \frac{P(1980)}{1000}$$

People are affected by water pollution in at least two ways: (1) pollution may reduce the economic potential, recreation potential, and aesthetic value of receiving waters for persons who might otherwise gain or benefit from clean water; and (2) people will be required to pay, either directly or indirectly, for water pollution control. Therefore, it is reasonable in deriving segment priority to include segment population.

This also fulfills the federal requirement to consider population affected. Use of the 1980 population accommodates the required allowance for anticipated growth over the five-year planning period.

$$\text{Severity of Pollution} = (\text{BOD}_5 + \text{SS} + \text{NH}_4 + \text{PO}_4 + \text{Metals})$$

The severity of pollution, in addition to factors identified by the state, is identified in a collection of terms that define the waste loads above allowable limits being discharged into streams. The allowable limits, or waste loads, for a particular stream segment has been determined by water quality modeling or by existing effluent limitations, whichever are more stringent. Therefore, the greater the existing waste loads above allowable waste loads, the greater (or more severe) the water pollution problem. BOD₅ is biochemical oxygen demand that reduces the dissolved oxygen in a stream. SS is suspended solids, which may increase the sedimentation load in the stream. NH₄ (ammonia) and PO₄ (phosphates) cause enrichment of waterways, which may cause algal growth. Metals can create toxic conditions dangerous to water supplies and to aquatic life. To determine the most restrictive effluent limitation, three informational sources were examined:

1. The definition of secondary treatment includes effluent limitations of 30 mg/l of BOD₅ and 30 mg/l of suspended solids. An ammonia nitrogen limitation of 4 mg/l has also been selected by the state because of its potential toxic effects.
2. The NPDES permit contains specific information for BOD₅, suspended solids, and other parameters.
3. The waste load allocation from the "Kentucky Waste Load Allocation Model" developed by the University of Kentucky and the University of Louisville.

$$\text{Thermal} = T$$

Thermal pollution is calculated by multiplying the °F above state water quality standards times the flow in million gallons per day.

$$\text{Nonpoint Sources} = \text{NP}$$

Significant nonpoint sources in a segment increase the overall priority ranking by a maximum of 100. Significant nonpoint sources are defined as follows:

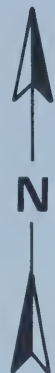
1. Acid mine drainage is considered a significant nonpoint source when the stream is continuously impregnated with acid mine drainage to the extent that the pH is depressed below 6 at least 90% of the time or below a pH of 5 at least 50% of the time.
2. Strip mining is considered a significant nonpoint source if the present control techniques utilizing sedimentation basins are not sufficient to pre-

Exhibit 4.1t SEGMENT DESCRIPTION AND WATER QUALITY STATUS - SALT RIVER BASIN

Segment	Location	1975 Segment Classification	1975 Segment Rank	Deviation From National Priorities
SS-01	Salt R. from confluence with the Ohio R. to Rolling Fk.	WQL	36	NO
SS-02	Salt R. from confluence with Rolling Fk. to Floyds Fk.	WQL	10	NO
SS-03	Long Lick Ck. from confluence with Salt R. to headwaters	WQL	14	NO
SS-04	Salt R. from confluence with Floyds Fk. to Plum Ck.	WQL	25	NO
SS-05	Salt R. from Plum Ck. to Taylorsville STP	WQL	24	NO
SS-06	Simpson Ck. from confluence with Salt R. to headwaters	WQL	17	NO
SS-07	Salt R. from Plum Ck. to Taylorsville STP	WQL	20	NO
SS-08	Plum Ck. from confluence with Salt R. to headwaters	WQL	32	NO
SS-09	Brashears Ck. from confluence with Clear Ck. to headwaters	WQL	15	NO
SS-10	Clear Ck. from Clear Ck. Mile Pt. 49.1 to headwaters	EL	34	NO
SS-11	Clear Ck. from confluence with Brashears Ck. to Clear Ck. Mile Point 49.1	WQL	12	NO
SS-12	Brashears Ck. from confluence with Salt R. to headwaters	WQL	23	NO
SS-13	Salt R. from Taylorsville STP to confluence with Timber Ck.	WQL	26	NO
SS-14	Salt R. from confluence with Timber Ck. to J. E. Seagram discharge	WQL	30	NO
SS-15	Hammond Ck. from confluence with Salt R. to headwaters	WQL	13	NO
SS-16	Salt R. from J. E. Seagram discharge to Lyons Br.	WQL	33	NO
SS-17	Salt R. from confluence with Lyons Br. to confluence with Quirks Rn.	WQL	8	NO
SS-18	Salt R. from confluence with Quirks Rn. to headwaters	EL	30	NO
SB-01	Beech Fk. from confluence with Rolling Fk. to Bardstown	WQL	3	NO
SB-02	Beech Fk. from Bardstown STP to headwaters	WQL	22	NO
SB-03	Hardins Ck. from confluence with Beech Fk. to headwaters	WQL	6	NO
SB-04	Cartwright Ck. from confluence with Beech Fk. to headwaters	WQL	11	NO
SB-05	Chaplin R. from confluence with Beech Fk. to Perryville STP	WQL	19	NO

Exhibit 4.1t SEGMENT DESCRIPTION AND WATER QUALITY STATUS - SALT RIVER BASIN (CONT'D)

Segment	Location	1975 Segment Classification	1975 Segment Rank	Deviation From National Priorities
SB-06	Chaplin R. from Perryville STP to headwaters	EL	31	NO
SF-01	Floyds Fk. from confluence with Salt R. to Chenoweth Run	WQL	2	NO
SF-02	Chenoweth Run from confluence with Floyds Fk. to headwaters	WQL	4	NO
SF-03	Floyds Fk. from confluence with Chenoweth Run to Currys Fk.	WQL	7	NO
SF-04	Floyds Fk. from confluence with Currys Fk. to headwaters	WQL	28	NO
SM-01	Mill Ck. from confluence with Salt R. to tributary at Mile 11.84	WQL	5	NO
SM-02	Mill Ck. from tributary at Mile 11.84 to headwaters	WQL	9	NO
SP-01	Pond Ck. from confluence with Salt R. to Brier Ck.	WQL	37	NO
SP-02	Pond Ck. from confluence with Brier Ck. to headwaters	WQL	1	NO
SR-01	Rolling Fk. from confluence with Salt R. to Lebanon Junction STP	WQL	16	NO
SR-02	Rolling Fk. from Lebanon Junction STP to New Haven STP	WQL	21	NO
SR-03	Rolling Fk. from New Haven STP to confluence of Pather Ck.	WQL	18	NO
SR-04	Rolling Fk. from confluence of Pather Ck. to confluence of North Rolling Fk. and Big South Fk.	WQL	29	NO
SR-05	North Rolling Fk. and Big South Fk.	EL	27	NO



SALT RIVER BASIN

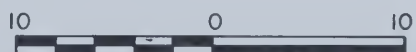


EXHIBIT 4.2m

SEGMENT
CLASSIFICATION

LEGEND

- SS-4 Segment Classification Number
- WQL (Water Quality Limited Segment)
- EL (Effluent Limited Segment)



SCALE IN MILES

KENTUCKY WATER QUALITY MANAGEMENT PLAN

Prepared for Division of Water Quality
KENTUCKY DEPARTMENT FOR NATURAL RESOURCES
AND ENVIRONMENTAL PROTECTION

SCHIMPELER•CORRADINO ASSOCIATES
engineering & planning consultants
1429 S. Third Street
Louisville, Kentucky 40208
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SALT RIVER BASIN



EXHIBIT 4.2m

SEGMENT CLASSIFICATION

LEGEND

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vent a substantial increase in suspended solids in the main stem of the river.

3. Combined sewers are considered a significant nonpoint source when the yearly average combined sewage overflow equals or exceeds the treated effluent flow.
4. Surface runoff from urban areas is considered a significant nonpoint source when the population affected ($\frac{P}{1000}$) is 10 or more.

The 1975 segment priorities for the segments of the Salt River Basin are derived and summarized as shown in Exhibit 4.3t.

SIGNIFICANT MUNICIPAL DISCHARGES

Significant municipal discharges include wastewater treatment plants serving a municipality eligible

for EPA construction grants. EPA defines such a municipality as "a city, town, borough, county, parish, district or other public body created by or pursuant to state law, or an Indian tribe or an authorized Indian tribal organization, with jurisdiction over disposal of sewage, industrial wastes, or other wastes."¹

EPA² requires that the state establish and maintain a State Municipal Discharge Inventory. The inventory shall include a ranking of significant municipal discharges and shall be revised and submitted to EPA at least once a year. The inventory shall be used to establish priorities and to provide cost estimates for municipal facilities construction and other state program actions. The ranking of significant municipal discharges by the state shall be consistent

¹40 CFR 35.805--4 Municipality.

²40 CFR 130.43--State municipal discharge inventory; priority ranking.

Exhibit 4.3t 1975 SEGMENT PRIORITIES - SALT RIVER BASIN

Segment	1980 Pop. 1000	BOD ₅ (LBS) Existing	BOD ₅ (LBS) Above Allowable	S.S. (LBS) Existing	S.S. (LBS) Above Allowable	NH ₄ (LBS) Existing	NH ₄ (LBS) Above Allowable	Nonpoint Source	Segment Priority	Segment Rank Within Basin
SB-01	10.7	511.9	441.1	NA	NA	106.8	85.2	0.0	537.0	3
SB-02	7.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.3	22
SB-03	10.0	375.2	291.8	NA	NA	15.0	0.0	0.0	301.8	6
SB-04	5.2	193.8	168.0	NA	NA	7.8	0.0	0.0	173.2	11
SB-05	7.7	20.0	13.3	NA	NA	10.0	8.0	0.0	29.0	19
SB-06	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	31
SF-01	23.1	742.7	495.1	NA	NA	371.2	296.9	100.0	915.1	2
SF-02	20.5	325.1	216.7	NA	NA	162.6	130.1	100.0	467.3	4
SF-03	12.6	172.5	115.0	NA	NA	85.9	68.6	100.0	296.2	7
SF-04	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.3	28
SM-01	30.6	500.2	166.7	NA	NA	133.4	33.4	100.0	330.7	5
SM-02	13.6	200.1	133.4	NA	NA	100.0	80.0	0.0	227.0	9
SP-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37
SP-02	127.3	1,892.9	1,253.5	NA	NA	947.1	755.3	100.0	2,236.0	1
SR-01	3.0	50.0	33.3	NA	NA	25.0	20.0	0.0	56.3	16
SR-02	3.1	30.0	20.0	NA	NA	3.0	0.0	0.0	23.1	21
SR-03	7.8	20.0	13.3	NA	NA	10.0	8.0	0.0	29.1	18
SR-04	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1	29
SR-05	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5	27
SS-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36
SS-02	13.2	127.6	99.3	NA	NA	8.5	0.0	100.0	212.5	10
SS-03	2.2	85.0	56.7	NA	NA	42.5	34.0	0.0	92.9	14
SS-04	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9	25
SS-05	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	24
SS-06	3.2	25.0	16.7	NA	NA	12.5	10.0	0.0	29.9	17
SS-07	0.9	25.0	16.7	NA	NA	12.5	10.0	0.0	27.6	20
SS-08	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	32
SS-09	4.9	50.0	33.4	NA	NA	25.0	20.0	0.0	58.3	15
SS-10	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	34
SS-11	9.5	133.4	91.7	NA	NA	62.5	50.0	0.0	151.2	12
SS-12	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	23
SS-13	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.7	26
SS-14	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	30
SS-15	5.6	125.0	83.3	NA	NA	50.0	37.5	0.0	126.4	13
SS-16	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33
SS-17	10.7	185.0	168.3	NA	NA	92.5	74.0	0.0	253.0	8
SS-18	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	30

Note: NA = Information Not Available

with the segment priority rankings. Chapter V presents construction grant priority rankings for significant municipal discharges as well as for other eligible municipalities or sewer districts.

Exhibit 4.4t lists the status of significant municipal discharges. Exhibit 4.5m illustrates the location of the significant municipal discharges within the Salt River Basin.

SIGNIFICANT DOMESTIC DISCHARGES

Significant domestic discharges are wastewater treatment plants that serve areas other than those served by significant municipal or industrial plants. Domestic discharges are usually package treatment plants that serve subdivisions and commercial, recreational, and institutional areas as follows:

Residential Discharges

- Subdivision sewage treatment plants
- Individual (single resident) sewage treatment plants

Commercial and Recreational Discharges

- Small businesses
- Gasoline service stations
- Motels, restaurants
- Shopping centers
- Airports
- Highway toll areas
- Parks and other recreational areas

Institutional Discharges

- Hospitals
- Schools
- Churches

Significant domestic discharges in the Salt River Basin are listed in Exhibit 4.6t and illustrated in Exhibit 4.7m.

The compliance schedule for the domestic discharges is based on segment priority ranking and potential elimination of a domestic source by a larger regional facility. For example, the Louisville 201 Facilities Plan proposed elimination of many of the Jefferson County domestic discharges by directing their effluent to a regional facility. A discharge or package treatment plant to be eliminated by 1977 or 1983 should use simple, inexpensive short term or temporary control techniques rather than constructing expensive, more sophisticated control facilities. Even for long-term use, the smaller facilities may be able to meet standards utilizing lagoons in addition to their present package treatment plants. Further discussion of potential control techniques for package treatment facilities is given in Chapter V.

SIGNIFICANT INDUSTRIAL DISCHARGES

Significant industrial discharges are industrial wastewater treatment plants classified according to the Standard Industrial Classification (SIC) as follows:

<u>SIC</u>	<u>Industry Group</u>
19	Ordinance
20	Food and Kindred Products
21	Tobacco Products

22	Textile Mill Products
23	Apparel
24	Lumber and Wood
25	Furniture and Fixtures
26	Pulp and Paper Products
27	Printing and Publishing
28	Chemicals
29	Petroleum and Coal Products
30	Rubber and Plastics
31	Leather
32	Stone, Clay, and Glass
33	Primary Metals
34	Fabricated Metals
35	Machinery, Except Electrical
36	Electrical Machinery
37	Transportation Equipment
38	Instruments
39	Miscellaneous

Significant industrial discharges in the Salt River Basin are listed in Exhibit 4.8t and illustrated in Exhibit 4.9m.

New federal legislation establishes a dual phase program for application of effluent limitations to existing industrial sources. The first phase requires application of the best practicable control technology (BPT) currently available. This level of technology is considered to be the minimum compliance under the law and must be achieved by all plants not later than July 1, 1977. "Best practicable technology" will represent the average of the best existing performance by well operated plants within each industrial category or subcategory.

The second phase requires application of the best available technology economically achievable. Best available technology (BAT) will be based upon the very best control and treatment measures that have been or are capable of being economically achieved. July 1, 1983 is the date by which all industries must conform to BAT technology.

A new industrial source is defined as a plant or facility, construction of which begins after EPA proposes standards for that particular industrial category. If a plant or facility is constructed before the standards are published or if no standards are established for that industry, the plant is not a new source and will be subject only to the effluent limitations for existing sources. Modification of an existing source, however, may make it a "new source" under the law.

Effluent limitations guidelines for existing sources and standards of performance for new sources have been published for the major Standard Industrial Classification (SIC) categories. Existing and new industrial discharges must meet these effluent limitations on standards of performance to be in compliance with the Act.

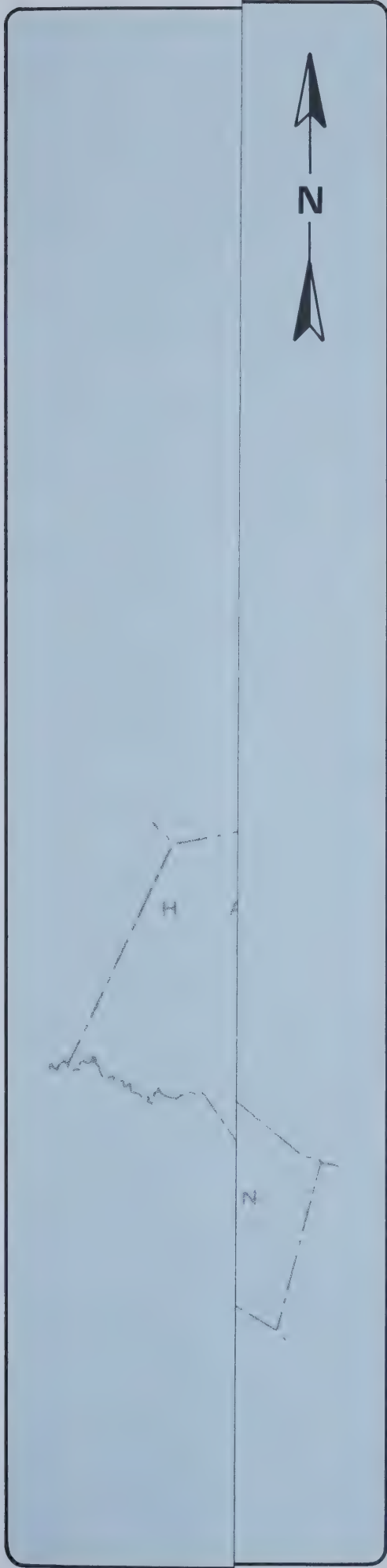
Exhibit 4.4t SIGNIFICANT MUNICIPAL DISCHARGES - SALT RIVER BASIN

Discharge Name	Location		Receiving Water	Water Quality Violation	1975 Abatement Priority*	NPDES Permit		
	County	Segment				Number	Expiration Date	Compliance Schedule
Bardstown	Nelson	WQ-SB-01	Town Ck. 351.50/11.40/ 20.10/20.90/ 0.50/.30	NH3-N	29	0021237	6/30/77	6/30/77
Bloomfield	Nelson	WQ-SS-06	E. Fk. Simpson Ck. 351.50/ 49.70/6.80/ 1.56	DO,NH3-N	141			
Eminence	Henry	WQ-SS-09	Fox Rn. 351.50/ 55.90/25.60/ 10.30/13.90	DO,NH3-N	88			
Harrodsburg	Mercer	WQ-SS-17	Town Ck. 351.50/128.60/ 1.40	DO,NH3-N	31			
Jeffersontown	Jefferson	WQ-SF-02	Chenoweth Rn. 351.50/25.50/ 24.30/5.30	DO,NH3-N	38			
Lawrenceburg	Anderson	WQ-SS-15	Hammond Ck. 351.50/88.50/ 5.20/1.80	DO,NH3-N	36	0021067	6/30/77	6/30/77
Lebanon	Marion	WQ-SB-03	Hardins Ck. 351.50/11.40/ 20.40/33.70/ 18.82	DO,NH3-N	60	0026549	6/30/77	6/30/77
Lebanon Junction	Bullitt	WQ-SR-01	UT-Rolling Fk. 351.50/11.40/ 12.20/1.20	DO,NH3-N	87			
Okolona	Jefferson	WQ-SP-02	Pond Ck. 351.50/0.40/ 16.90/1.90/ 2.40	DO,NH3-N	5	0026042	6/30/77	6/30/77
Perryville	Boyle	WQ-SB-05	Chaplin River 351.50/11.40/ 20.10/49.80/ 81.70	DO,NH3-N	146			
Radcliff	Hardin	WQ-SM-02	UT-Mill Ck. 351.50/5.80/ 11.84	DO,NH3-N	43	0022390	6/30/77	6/30/77
Shelbyville	Shelby	WQ-SS-11	Clear Ck. 351.50/55.90/ 34.60	DO,NH3-N	59	0020427	6/30/77	6/30/77
Shepherdsville	Bullitt	WQ-SS-02	Salt River 351.50/22.80	None	93			
Springfield	Washington	WQ-SB-04	Road Run 351.50/11.40/ 20.10/39.10/ 6.40/4.50	DO,NH3-N	28	002097	6/30/77	6/30/77
Taylorsville	Spencer	WQ-SS-07	Salt River 351.50/55.95	None	140			
Fort Knox	Hardin	WQ-SM-01	Otter Ck.	DO,NH3-N		0002917		

*Priority ranking by Department for Natural Resources and Environmental Protection, 1974. Refer to Chapter V for current priority ranking.

Exhibit 4.6t SIGNIFICANT DOMESTIC DISCHARGES - SALT RIVER BASIN

Discharge Name	Location		Receiving Water	Water Quality Violation	NPDES Permit			
	County	Segment			Owner	Number	Expiration Date	Compliance Schedule
Leemont Acres Sub.	Jefferson	WQ-SP-02	UT-Pond Ck 351.50/0.40/ 8.20/0.30/ 0.40	None	Montgomery Company			
Elysian Fields Sub	Jefferson	WQ-SP-02	UT-Pond Ck 351.50/0.40/ 11.30	NH ₃ -N	Louisville Enterprises			
Tarrytown Sub.	Jefferson	WQ-SP-02	Pond Ck 351.50/0.40/ 11.30	NH ₃ -N	Phillips Enterprises			
Prairie Village Sub.	Jefferson	WQ-SP-02	UT-Pond Ck 351.50/0.40/ 12.60	NH ₃ -N	Wm. L. Peterson Construction			
Hidden Valley Sub.	Jefferson	WQ-SP-02	Pond Ck 351.50/0.40/ 14.20	NH ₃ -N	Jack Farley			
Windsor Forest Sub.	Jefferson	WQ-SP-02	Pond Ck 351.50/0.40/ 14.70/0.26	DO, NH ₃ -N	Wm. L. Peterson Construction			
Brookfield MHP	Jefferson	WQ-SP-02	Bee Lick Ck 351.50/0.40/ 16.00/1.36/ 0.20	DO, NH ₃ -N	NA			
Fairdale Elem. School	Jefferson	WQ-SP-02	Bee Lick Ck 351.50/0.40/ 16.00/1.90	DO, NH ₃ -N	Board of Education			
Candlelight Sub.	Jefferson	WQ-SP-02	Southern Ditch 351.50/0.40/ 16.20/0.40	DO, NH ₃ -N	Candlelight Dev. Corp.			
Confederate Acres Sub.	Jefferson	WQ-SP-02	Northern Ditch 351.50/0.40/ 17.10	DO, NH ₃ -N	Carlos Allen			
Yorktown Sub.	Jefferson	WQ-SP-02	Northern Ditch 351.50/0.40/ 17.90	DO, NH ₃ -N	Ken George			
Shady Villa Sub.	Jefferson	WQ-SP-02	Spring Ditch 351.50/0.40/ 17.90	DO, NH ₃ -N	Shady Villa Sewer Dist. #1			
Poplar Level Road Dist.	Jefferson	WQ-SP-02	Spring Ditch 351.50/0.40/ 22.10/1.60	DO, NH ₃ -N	Homeowner			
Sunshine-Sungold Sub.	Jefferson	WQ-SP-02	Northern Ditch 351.50/0.40/ 23.70	DO, NH ₃ -N	John McCrea			
Whispering Hills	Jefferson	WQ-SP-02	Fern Ck 351.50/0.40/ 24.10	DO, NH ₃ -N	George Bussion Co.			



SALT RIVER BASIN

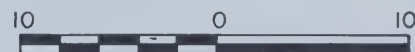


EXHIBIT 4.5m

SIGNIFICANT MUNICIPAL DISCHARGERS

LEGEND

-  Major Discharger
(over 1 mgd)
-  Principal Discharger
(less than 1 mgd)



SCALE IN MILES

KENTUCKY WATER QUALITY MANAGEMENT PLAN

Prepared for Division of Water Quality

KENTUCKY DEPARTMENT FOR NATURAL RESOURCES
AND ENVIRONMENTAL PROTECTION

SCHIMPELER•CORRADINO ASSOCIATES
engineering & planning consultants
1429 S. Third Street
Louisville, Kentucky 40208
502/636-3555





SALT RIVER BASIN



EXHIBIT 4.5m

**SIGNIFICANT
MUNICIPAL
DISCHARGERS**

LEGEND

-  Major Discharger
(over 1 mgd)
-  Principal Discharger
(less than 1 mgd)



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Exhibit 4.6t SIGNIFICANT DOMESTIC DISCHARGES - SALT RIVER BASIN (CONT'D)

Discharge Name	Location		Receiving Water	Water Quality Violation	NPDES Permit			
	County	Segment			Owner	Number	Expiration Date	Compliance Schedule
Marion C. Moore H.S.	Jefferson	WQ-SP-02	UT-Fern Ck 351.50/0.40/ 24.13/1.20	DO, NH ₃ -N	Board of Education			
Shallow Creek	Jefferson	WQ-SP-02	UT-Fern Ck 351.50/0.40/ 25.40	DO, NH ₃ -N	Overland Investment Co.			
Cedar Creek	Jefferson	WQ-SP-02	UT-Fern Ck 351.50/0.40/ 26.10/0.20/ 0.90	DO, NH ₃ -N	David Holley Co.			
Watterfern Hills Sub.	Jefferson	WQ-SP-02	UT-Fern Ck 351.50/0.40/ 26.10/0.60	DO, NH ₃ -N	Watterfern Hills Subd.			
Wildwood Apt.	Jefferson	WQ-SP-02	UT-Fern Ck 351.50/0.40/ 26.80/0.50	DO, NH ₃ -N	NA			
Fern Hill Sub.	Jefferson	WQ-SP-02	UT-Fern Ck 351.50/0.40/ 27.80/0.90	DO, NH ₃ -N	Jack Young Builders			
Spring Lake Farm Sub.	Jefferson	WQ-SP-02	Fern Ck 351.50/0.40/ 28.90/0.80	DO, NH ₃ -N	Durrent Company			
Hill Ridge Sub.	Jefferson	WQ-SP-02	Fern Ck 351.50/0.40/ 29.51	DO, NH ₃ -N	Dan Ridge			
Nottingham Hills Sub.	Jefferson	WQ-SP-02	Fern Ck 351.50/0.40/ 28.80/0.50	DO, NH ₃ -N	Richard Yocum			
Henry Watter-son Estates	Jefferson	WQ-SP-02	Fern Ck 351.50/0.40/ 29.50/0.10	DO, NH ₃ -N	Overland Investment Co.			
Southland MHP	Jefferson	WQ-SP-02	Southern Ditch 351.50/0.40/ 16.90/0.62	DO, NH ₃ -N	NA			
Westminster MHP	Jefferson	WQ-SP-02	Southern Ditch 351.50/0.40/ 16.90/1.30	DO, NH ₃ -N	NA			
Minor Lane Heights Sub.	Jefferson	WQ-SP-02	UT-Southern Ditch 351.50/0.40/ 16.90/2.50	DO, NH ₃ -N	Ms. Florence Calvert			
Silver Heights Sub.	Jefferson	WQ-SP-02	Mud Ck 351.50/0.40/ 16.90/3.50/ 1.70	DO, NH ₃ -N	Carl N. Fox			
Cinderella Estates Sub.	Jefferson	WQ-SP-02	UT-Fishpool Ditch 351.50/0.40/ 16.90/3.80/ 1.10	DO, NH ₃ -N	Cinderella Dev. Corp.			

Exhibit 4.6t SIGNIFICANT DOMESTIC DISCHARGES - SALT RIVER BASIN (CONT'D)

Discharge Name	Location		Receiving Water	Water Quality Violation	NPDES Permit			
	County	Segment			Owner	Number	Expiration Date	Compliance Schedule
Treasure Island Dist.	Jefferson	WQ-SP-02	UT-Fishpool Ditch 351.50/0.40/ 16.90/3.80/ 2.80	DO,NH ₃ -N	Homeowners			
Maple Grove Sub.	Jefferson	WQ-SP-02	UT-Fishpool Ditch 351.50/0.40/ 16.90/3.80/ 2.90/1.70	DO,NH ₃ -N	Maple Grove Sewer Dist.			
Charleswood Sub.	Jefferson	WQ-SP-02	Fishpool Ditch 351.50/0.40/ 16.90/3.80/ 2.90/1.70	DO,NH ₃ -N	Butler Construction Co.			
Glengarry Sub.	Jefferson	WQ-SP-02	Southern Ditch 351.50/0.40/ 16.90/0.60	DO,NH ₃ -N	Louisville Trust Co.			
Tin-Dor Estates Sub.	Jefferson	WQ-SP-02	Bee Lick Ck 351.50/0.40/ 16.90/0.57/ 1.24/0.70	DO,NH ₃ -N	V. B. Weitzel (Receiver)			
Pinecrest Trailer Court	Jefferson	WQ-SP-02	Southern Ditch 351.50/0.40/ 16.90/0.13	DO,NH ₃ -N	NA			
Glen-Coe	Jefferson	WQ-SP-02	UT-Fern Ck 351.50/0.40/ 28.80/0.10	DO,NH ₃ -N	Richard Treitz			
Friendly Hills East	Jefferson	WQ-SP-02	Slop Ditch 351.50/0.40/ 16.90/1.90/ 2.30	DO,NH ₃ -N	Richard Yocum			

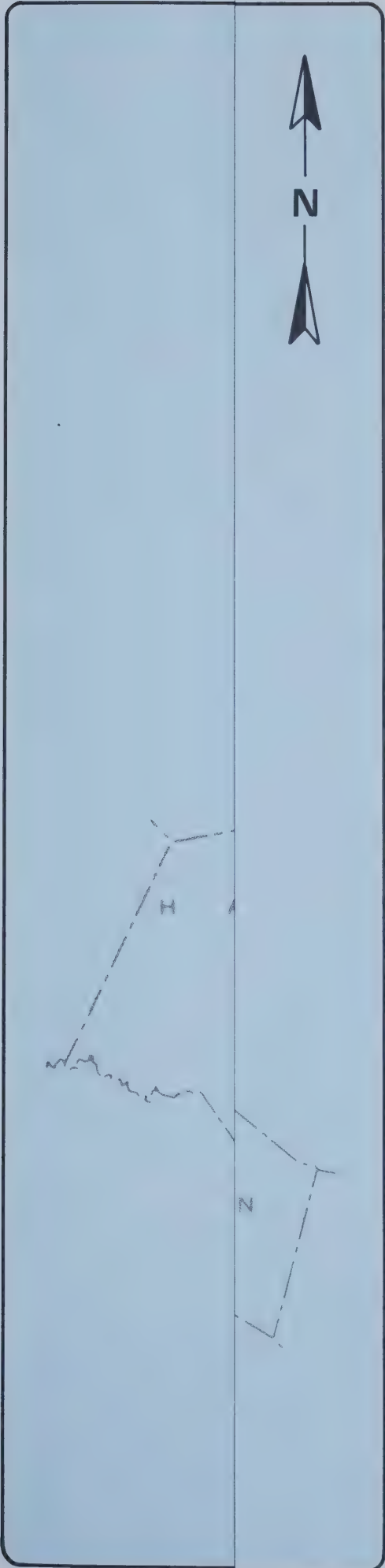
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Exhibit 4.6t SIGNIFICANT DOMESTIC DISCHARGES - SALT RIVER BASIN (CONT'D)

Discharge Name	Location		Receiving Water	Water Quality Violation	NPDES Permit			
	County	Segment			Owner	Number	Expiration Date	Compliance Schedule
Holly Villa Sub.	Jefferson	WQ-SP-02	Wilson Ck 351.50/0.40/ 16.90/0.57/ 1.24/1.50	DO,NH ₃ -N	Puritan			
Air View Estates	Hardin	WQ-SM-02	Mill Ck 351.50/5.80/ 5.70	DO,NH ₃ -N	James Jones			
Abbey of Gethsemane	Nelson	WQ-SR-03	Monks Ck 351.50/11.40/ 41.50/4.30/ 1.83	DO,NH ₃ -N	The Abbey Itself			
Blue Lick Sewer Corp.	Bullitt	WQ-SF-01	UT-Brooks Rn 351.50/25.50/ 3.73	DO,NH ₃ -N	Home Owners			
Maryville Sub. #4	Bullitt	WQ-SF-01	UT-Brooks Rn 351.50/25.50/ 3.70/3.50/ 0.60	DO,NH ₃ -N	John Walser			
Maryville Sub. #2 & 3	Bullitt	WQ-SF-01	UT-Brooks Rn 351.50/25.50/ 3.70/4.05/ 0.90	DO,NH ₃ -N	John Walser			
Wheel Estates	Bullitt	WQ-SF-01	UT-Brooks Rn 351.50/25.50/ 3.70/4.90/ 0.10	DO,NH ₃ -N	Turtle Creek Management Corp.			
Preston MHP	Bullitt	WQ-SF-01	UT-Brooks Rn 351.50/25.50/ 7.40/2.60/ 1.64/0.50	NH ₃ -N	Roland Foster			
Maryville Sub. #1	Bullitt	WQ-SF-01	Tanyard Br 351.50/25.50/ 7.40/2.60/ 1.65	DO,NH ₃ -N	John Walser			
Bullitt Hill	Bullitt	WQ-SF-01	UT-Tanyard Br 351.50/25.50/ 7.40/2.60	DO,NH ₃ -N	Liberty National			
Larkgrove Sub.	Jefferson	WQ-SF-01	UT-Tanyard Br 351.50/25.50/ 7.40/4.20/ 2.26/0.24/ 0.30	NH ₃ -N	Montgomery Company			
McNeely Lake Sub.	Jefferson	WQ-SF-01	UT-Pennsyl- vania Rn 351.50/25.50/ 7.40/4.20/ 4.00	DO,NH ₃ -N	Badger Development			
Maple Grove Sub. #5	Jefferson	WQ-SF-01	Pennsylvania Rn 351.50/ 25.50/7.40/ 4.20/3.30	DO,NH ₃ -N	Carroll Cogan			

Exhibit 4.6t SIGNIFICANT DOMESTIC DISCHARGES - SALT RIVER BASIN (CONT'D)

Discharge Name	Location		Receiving Water	Water Quality Violation	NPDES Permit			
	County	Segment			Owner	Number	Expiration Date	Compliance Schedule
Zelma Fields Sub.	Jefferson	WQ-SF-01	Cedar Ck 351.50/25.50/ 7.40/12.18/ 0.50	DO,NH ₃ -N	C.E. Schmidt			
Pleasant Valley Sub.#1	Jefferson	WQ-SF-01	UT-Pennsylvania Rn 351.50/25.50/ 7.40/4.20/ 5.20	None	Promotional Industries			
Farmgate Sub.	Jefferson	WQ-SF-01	Cedar Ck 351.50/25.50/ 7.40/12.18/ 1.70	DO,NH ₃ -N	Jack Young Builders			
Cedar Lake Sub.	Jefferson	WQ-SF-01	Cedar Ck 351.50/25.50/ 7.40/13.40/ 0.60	DO,NH ₃ -N	Thomas Easter			
Birchwood Sub.	Jefferson	WQ-SF-01	Cedar Ck 351.50/25.50/ 7.40/13.40/ 0.60	DO,NH ₃ -N	Simpson Corp.			
Idlewild Sub.	Jefferson	WQ-SF-01	Cedar Ck 351.50/25.50/ 7.40/15.30	DO,NH ₃ -N	Lindsey Raidt			
Chenoweth Hills Sub.	Jefferson	WQ-SF-02	Chenoweth Hills 350.50/25.50/ 24.30/3.40/ 1.30	DO,NH ₃ -N	Raidt Construction			
Woodland Hills Sub.	Jefferson	WQ-SF-02	Pope Lick Rn 351.50/25.50/ 31.30/3.93/ 1.10	DO,NH ₃ -N	MSD			
Cross Creek Sub.	Jefferson	WQ-SF-03	Pope Lick Rn 351.50/25.50/ 31.50/4.90	DO,NH ₃ -N	P & B Corp.			
Starview Estates Sub.	Jefferson	WQ-SF-03	Pope Lick Rn 351.50/25.50/ 40.00/3.70/ 0.30	DO,NH ₃ -N	Sidney Chase			
Ash Avenue	Oldham	WQ-SF-03	UT-Floyds Fk 351.50/25.50/ 45.56/0.60/ 0.90	DO,NH ₃ -N	Homeowner			
Ky State Reformatory	Oldham	WQ-SF-03	Floyds Fk 351.50/25.50/ 46.00	DO,NH ₃ -N	State-owned			



SALT RIVER BASIN



EXHIBIT 4.7m

**SIGNIFICANT
DOMESTIC
DISCHARGERS (Part I)**

LEGEND



See Exhibit 4.7m
Part II



Major Discharger
(over 1 mgd)



Principal Discharger
(less than 1 mgd)



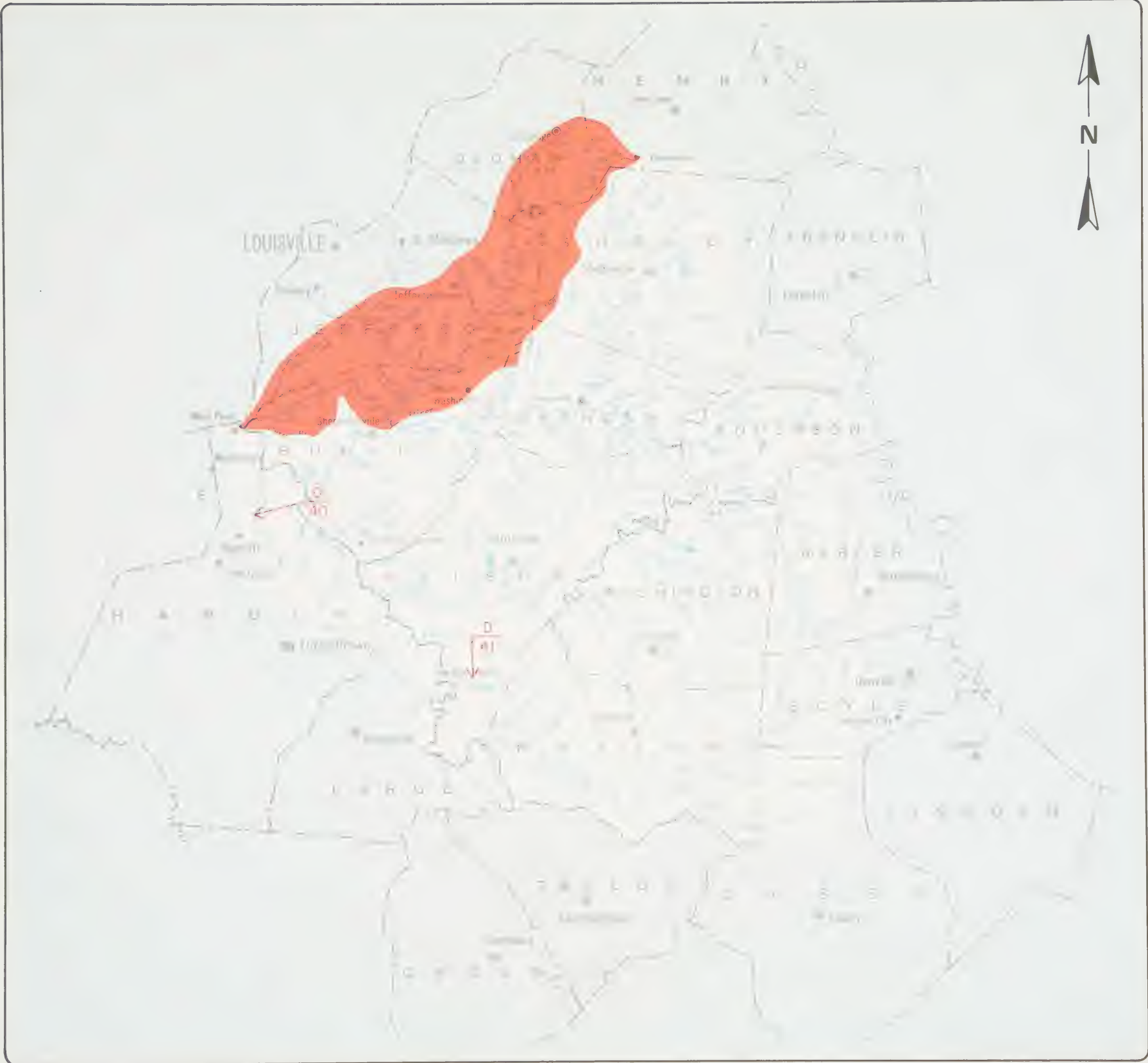
SCALE IN MILES

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Prepared for Division of Water Quality
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SALT RIVER BASIN



EXHIBIT 4.7m
**SIGNIFICANT
DOMESTIC
DISCHARGERS (Part I)**

LEGEND

-  See Exhibit 4.7m Part II
-  Major Discharger (over 1 mgd)
-  Principal Discharger (less than 1 mgd)



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EXHIBIT 4.7m

SIGNIFICANT DOMESTIC DISCHARGERS (Part II)

LEGEND

- Domestic Discharger
(over 50 mgd)

Note: Numbers correspond to
list on following page



SCALE IN MILES

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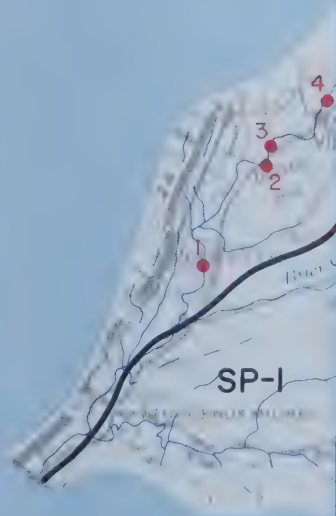


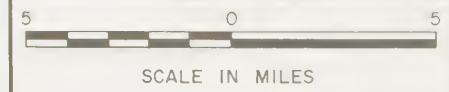


EXHIBIT 4.7m
**SIGNIFICANT
 DOMESTIC
 DISCHARGERS (Part II)**

LEGEND

- Domestic Discharger
 (over 50 mgd)

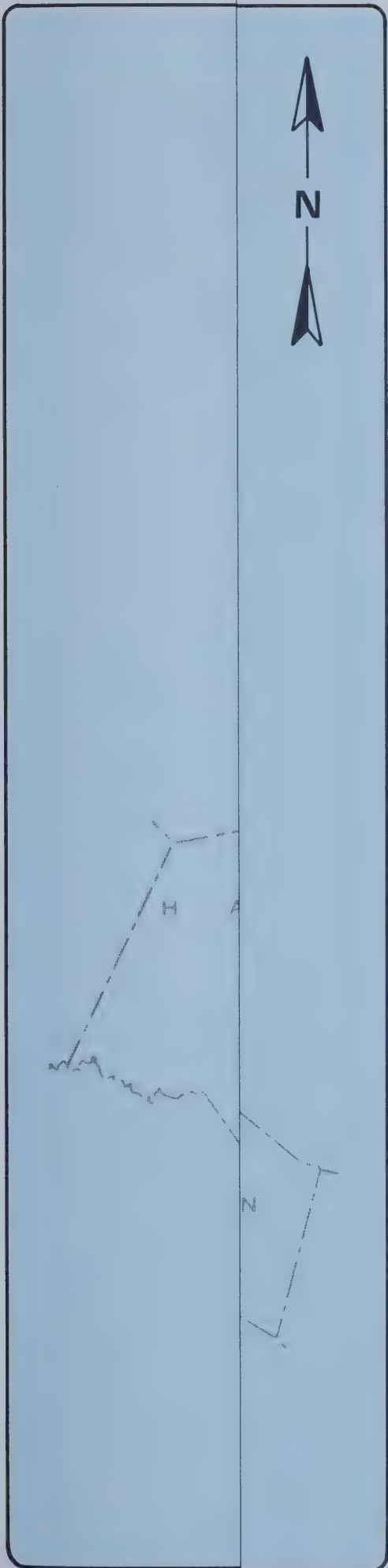
Note: Numbers correspond to
 list on following page



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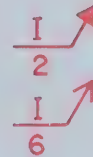
SALT RIVER BASIN



EXHIBIT 4.9m

SIGNIFICANT INDUSTRIAL DISCHARGERS

LEGEND



Major Discharger
(over 1 mgd)

Principal Discharger
(less than 1 mgd)



SCALE IN MILES

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SALT RIVER BASIN



EXHIBIT 4.9m

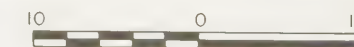
SIGNIFICANT INDUSTRIAL DISCHARGERS

LEGEND



Major Discharger
(over 1 mgd)

Principal Discharger
(less than 1 mgd)



SCALE IN MILES

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Exhibit 4.8t SIGNIFICANT INDUSTRIAL DISCHARGES - SALT RIVER BASIN

Discharge Name	Location		Receiving Water	Water Quality Violation	Principal SIC Code	NPDES Permit			
	County	Segment				Owner	Number	Expiration Date	Compliance Schedule
Liquid Transport Co.	Jefferson	WQ-SP-02	Spring Ditch 351.50/0.40/ 22.10/1.60	CO,NH ₃ -N	37	Liquid Transporters, Inc.	0002160	12/31/75	Present
Vulcan Metals	Jefferson	WQ-3P-02	Fishpool Ditch 351.50/0.40/ 16.90/3.80	None	33	Vulcan Materials Co.	0002691	9/30/78	Present
Heaven Hill Distillery	Nelson	WQ-SB-01	Rowan Ck. 351.50/11.40/ 20.10/20.90/ 0.50/0.10/ 0.10	None	20	The Heaven Hill Distilleries, Inc.	0001091		
Barton Distillery	Nelson	WQ-SB-01	UT-Beech Fk. 351.50/11.40/ 20.10/20.90/ 0.50/0.60	None	20	Barton Brands, Inc.	0002151	9/30/78	Present
J. B. Beam Distillery	Nelson	WQ-SS-03	Long Lick Ck. 351.50/11.40/ 13.30/4.50	None	20	J. B. Beam Distillery Company			
Joseph E. Seagram Distillery	Nelson	WQ-SS-05	E. Fk. Cox Ck. 351.50/ 34.10/3.40/ 9.90	None	20	Joseph E. Seagram, Inc.	0002313	9/30/78	10/31/75
Joseph E. Seagram Distillery	Anderson	WQ-SS-15	Salt R. 351.50/88.50/ 5.20/1.90	None	20	Joseph E. Seagram, Inc.	0005580		
Hall-Mack Co.	Mercer	WQ-S3-17	UT-Town Ck. 351.50/ 128.60/1.10/ 0.70	None	34	A Textron Co.	000134	5/10/79	Present

SIGNIFICANT NONPOINT SOURCES

Introduction

Section 306 of the Federal Water Pollution Control Act Amendments of 1972 (FWPCA) defines "source" as "any building, structure, facility, or installation from which there is or may be the discharge of pollutants." This definition describes a concentrated, identifiable pollution source that can be directly regulated and controlled.

Nonpoint sources of pollution, on the other hand, can be described as water polluting sources of a general nature that cannot be traced to a specific, identifiable discharge location. The primary pollution sources normally categorized thus are:

1. Soil erosion
 - a) from agricultural activities
 - b) from construction activities
2. Fertilizer, pesticide and herbicide usage
3. Animal wastes
4. Urban storm water runoff
5. Septic tank overflows
6. Resource extraction
7. Solid waste disposal

Nonpoint contamination sources are substantially more difficult to control because they enter ground and receiving waters over large areas and thus are virtually nonamenable to conventional means of wastewater treatment. However, since nonpoint sources may contribute a significant or major portion of total pollution loads to a specific area, these waste sources must be analyzed in light of their relative contribution to the overall water quality problems in the area. This approach is essential to assure that a disproportionate effort is not allocated to the point source problem if a significant or major portion of the overall problem is directly attributable to nonpoint sources. Thus, where it can be determined that water quality criteria cannot be achieved or maintained without abatement of nonpoint sources, specific practices to reduce these pollution sources must be recommended and implemented.

Realizing the potential significance of nonpoint pollution sources, the FWPCA requires the Environmental Protection Agency to publish information including (1) guidelines for identifying and evaluating the nature and extent of nonpoint sources of pollutants, and (2) processes, procedures, and methods to control pollution resulting from:

1. Agricultural and foresting activities, including runoff from fields and crop and forest lands;
2. Mining activities, including runoff and siltation from new, currently operating and abandoned surface and underground mines;
3. All construction activity, including runoff from the facilities resulting from such construction;
4. Disposal of pollutants in wells or in subsurface excavations;

5. Salt water intrusion resulting from any cause, including extraction of groundwater, irrigation, obstruction, and diversion; and
6. Changes in the movement, flow or circulation of any navigable waters or groundwaters, including changes caused by the construction of dams, levees, channels, causeways, or flow diversion facilities.

These publications³ have been prepared and are now available. They summarize the latest developments in pollution abatement practices directed toward control and regulation of nonpoint sources.

Types of Nonpoint Sources

The major types of nonpoint sources of pollution are briefly discussed below.

Soil Erosion. A significant portion of the suspended and dissolved solids entering streams in agricultural areas is attributable to soil erosion. As water flows over farmland and forest land, it accumulates and transfers soil particles, animal wastes, salts and nutrients, and pesticides from the land into the surface water. Runoff in logging areas also produces pollution loadings by discharging increased nutrient loads, sediment, and thermal loads.

Agricultural and timber activities increase land erosion rates four to nine times what they were with their natural cover. The average sediment

³Methods of Identifying and Evaluating the Nature and Extent of Nonpoint Sources of Pollution, Environmental Protection Agency, October, 1973.

Methods and Practices for Controlling Water Pollution from Agricultural Nonpoint Sources, Environmental Protection Agency, October, 1973.

Processes, Procedures, and Methods to Control Pollution Resulting from Silvicultural Activities, Environmental Protection Agency, October, 1973.

Processes, Procedures, and Methods to Control Pollution from Mining Activities, Environmental Protection Agency, October, 1973.

Processes, Procedures, and Methods to Control Pollution Resulting from All Construction Activity, Environmental Protection Agency, October, 1973.

Groundwater Pollution from Subsurface Excavations, Environmental Protection Agency, 1973.

The Control of Pollution from Hydrographic Modifications, Environmental Protection Agency, 1973.

Identification and Control of Pollution from Salt Water Intrusion, Environmental Protection Agency, 1973.

load placed on a receiving water during a rainfall is dependent upon:

1. Rainfall intensity and duration,
2. Ground cover, permeability, and slope,
3. Soil type, condition, and exposure.

Of these factors, ground cover and the related surface permeability are the most responsive to soil conservation techniques. Current techniques recommended to minimize the effects of soil erosion from agricultural and forestry activities include small watershed projects of the Soil Conservation Service, increased usage of contour farming, no-till farming, grassed waterways, and small pond construction. Despite erosion control efforts to date, it has been estimated that between 50% and 75% of the sediment entering the nation's waters each year comes from crop and pasture lands.

Soil erosion from construction activities can also contribute a substantial pollution load if concentrated in a relatively small watershed. It has been estimated that the average sediment yield during a rainfall at a highway construction site is about ten times that for cultivated land and 2,000 times that for forest areas. These tremendous sediment loads impede the flow and choke streams, fill lakes and reservoirs, and severely limit their usage for recreation and aesthetic enjoyment, not to mention their capacity to accommodate floods.

A recent EPA report, "Processes, Procedures, and Methods to Control Pollution Resulting from All Construction Activity," states that "erosion, runoff, and sedimentation can be controlled on new construction sites through the requirement that an erosion and sediment control plan fitted to the individual site be approved before a grading permit can be issued." To insure qualification for the permit, the report recommends required approval of architectural and engineering drawings and specifications that spell out pollution control practices permitting prospective contractors to bid and plan intelligently.

One specific way to prevent this particularly troublesome pollution activity is construction of temporary settling ponds at the drainage edges of new construction projects. Although quite effective if properly constructed, this practice presents only limited feasibility and potential, except for quite large construction projects.

Fertilizer, Pesticide and Herbicide Usage. The application of various chemicals to the soil and crops has greatly contributed to increased crop yields; however, this tremendous increase in the use of fertilizers, pesticides, and herbicides has also contributed substantially to the quantity of contaminants reaching receiving streams.

Fertilizers entering water courses supply nourishment that stimulates the growth of algae and other aquatic plants accelerating eutrophication. Nitrates and phosphates are the primary nutrients, with nitrates presenting the greater problem due to a greater susceptibility to runoff into surface waters and into groundwaters.

The problem of controlling excessive nutrient concentration in surface waters is currently receiving considerable attention from federal and state water pollution authorities. Acceptable nutrient loads can vary substantially depending on several factors; present nutrient levels, temperature, streamflow quantity and velocity, streambed type, etc. Due to these numerous and interrelated factors, it is difficult to establish allowable nutrient loads. Until methods become available for identifying and preventing excessive nutrient concentrations, existing eutrophication problems must be investigated on a case-by-case basis to determine specific causes.

Existing legislation relating to the usage of fertilizers, pesticides and herbicides include:

- . Federal Environmental Pesticide Control Act of 1972
- . Federal Insecticide, Fungicide, and Rodenticide Act
- . Kentucky Pesticides Control Act

Pesticides and herbicides present an even greater potential danger because of their tremendous toxicity and initial concentration. Relatively minute quantities of these chemicals, if present in water supplies, are thought to be capable of long-range detrimental effects.

Overuse and misuse of pesticides and herbicides appear to be the greatest dangers associated with their use. Initial efforts to minimize these dangers should concentrate on the education of their users. Federal regulation of the manufacture and distribution of these chemicals should be enacted if education of users proves inadequate.

Animal Wastes. As agricultural techniques and practices have changed over the past few decades, the number and average size of farms have shown significant change. Whereas the vast majority of agricultural activities of the past were single-family generations of corresponding size, today's average farm, economic pressures and technological advances are turning into a highly efficient, large scale operation. With the advent of these developments have appeared livestock feedlot operations that successfully utilize high volume, production-line techniques with concentrated rations and confined feeding. Even though these changes have tremendously contributed to greater efficiency and volume of meat production, they have also greatly increased the potential pollution loadings on affected receiving streams and water bodies.

Although many livestock are kept in barns or pastures where their wastes may not reach a receiving water, many concentrations of livestock are confined to relatively small areas in close proximity to receiving waters, where a substantial portion of their waste may enter a receiving stream. Even if only a small percentage of the total waste enters a waterway, the mere magnitude of the waste produced results in a polluting load many receiving streams are incapable of handling adequately. Thus, the potential for nonpoint pollution by livestock is of a magnitude to constitute considerable concern in all areas where livestock populations are substantial.

Many larger farming and animal feedlot operations will eventually have to be given the same individual attention as any industrial operation having a wastewater discharge. Currently, the most effective and economical means of countering this pollutional source is through the construction of lagoons or disposal pits, whose cost the Agricultural Stabilization and Conservation Service (ASCS) will share equally with the farmer. If properly designed, such treatment can greatly reduce the animal waste effects on surface water quality.

A water pollution control research series publication entitled, "Role of Animal Wastes in Agricultural Land Runoff," prepared for the Environmental Protection Agency, presents a summary of some of the more detailed and comprehensive work that has been performed in an attempt to develop the ability to identify and the technology to control the agricultural land runoff attributable to livestock feedlot operations.

Urban Storm Water Runoff. The basic difficulties encountered in dealing with the urban storm water runoff problem are two-fold and similar to the basic problems characterizing all nonpoint sources. These are:

1. Identifying the relative severity of the problem, in relation to the point pollution loadings, and
2. Developing and implementing the most effective and economical means of abating that problem.

A water pollution control research series publication entitled, "Storm Water Pollution from Urban Land Activity," prepared for the Federal Water Quality Administration, presents a comprehensive and detailed summary of the current state of the art in regard to the urban runoff pollution problem. As identified and discussed in this report, the pollution loading attributable to urban storm water runoff is composed of many water contaminants which create a measurable impact upon many of the water quality parameters protected by current water quality standards.

In addition to the general nonpoint pollution problem presented by the accumulation of storm water from general urban land activity, the more specific problem of pollution loadings created by street surface contaminants must be addressed. When storm water is collected by a municipal sewerage system, a problem is created that can only be solved by providing an adequate means of treatment and/or disposal of this water.

This problem is further complicated by the partially separated, partially combined sewerage systems. These collection systems normally present numerous overflow and bypass points that tremendously complicate the task of wastewater control and regulation.

Septic Tank Overflows. Septic tank overflows are primarily the result of allowing installation of septic tanks in areas where soil types are not suitable for such use. Overuse and under-design are less significant causes of the same problem.

Although the overflow discharges from septic tanks are normally rather small, since they normally serve small wastewater generators, they can create a severe pollution hazard if numerous septic tanks are located in a concentrated area that lacks the potential for successful septic tank function. Situations such as this force local jurisdictions to regulate closely, or ban, if necessary, future septic tank use.

Resource Extraction. Quarrying and mining activities require sensible land management practices to ensure that surface excavations and exposure of underground areas do not permit an unacceptable quantity of sediment, mineral solids, salt and surface waters. Pollutants associated with resource extraction vary with the type of quarrying or mining activity; however, erosion and sedimentation are likely if proper site planning and construction techniques are ignored.

Solid Waste Disposal. The disposal of solid waste in sanitary landfills, although one of the simplest and economical methods of solid waste management, presents a considerable threat to existing and future ground and surface waters of an area. Compounding the seriousness of this problem is the currently allowed practice of disposing solid wastes (sludge) from sewage treatment processes in these landfills. In many instances these wastes are highly concentrated and possess tremendous pollution potential.

To control and minimize the potential pollution impact from sanitary landfills, both the federal and state government are imposing regulations. The following state laws are applicable to the disposal of solid waste in Kentucky:

- . Kentucky Solid Waste Disposal Law
- . Kentucky Garbage and Refuse Disposal Law
- . Kentucky Solid Waste Regulations

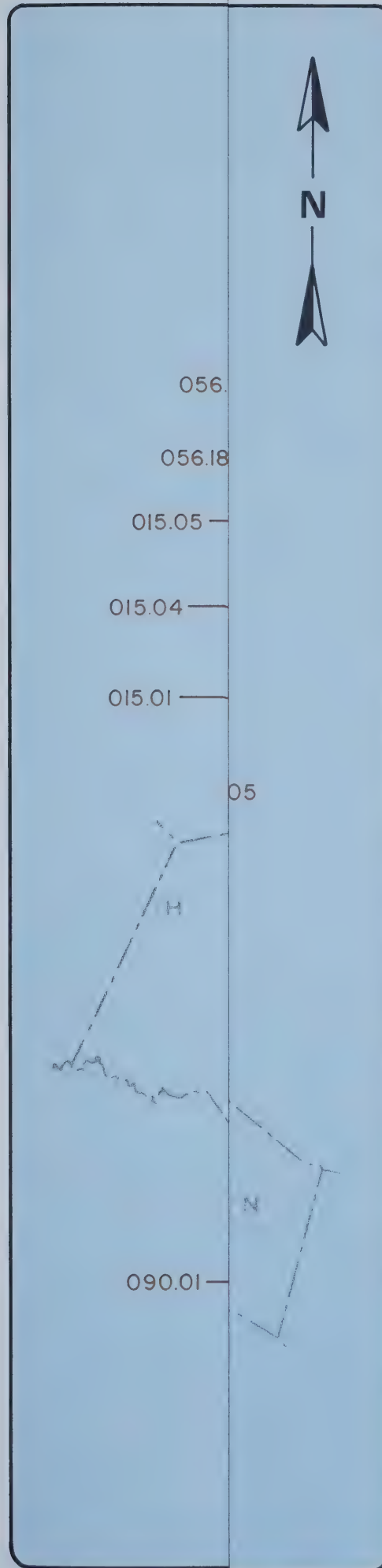
In addition to the above state laws and regulations, the U.S. EPA has printed guidelines, that outline acceptable procedures for land disposal of wastes from sewage treatment plant processes. Together, these laws, regulations, and guidelines present an effective means of control of this pollution problem. Enforcement of the procedures outlined will substantially reduce the threat presented by solid waste landfill operations.

Significant Nonpoint Sources In The Salt River Basin

Significant nonpoint sources in the Salt River Basin are identified and located in Exhibit 4.10m.

Soil Erosion. Soil erosion occurs throughout the Salt River Basin and is directly related to the agricultural and construction activity occurring in the basin and the amount of surface area disruption involved. However, no area can be identified that presents a particularly significant nonpoint source problem.

Fertilizer, Pesticide and Herbicide Usage. Although fertilizer, pesticide, and herbicide usage in the basin is extensive, no usages of sufficient



SALT RIVER BASIN



EXHIBIT 4.10m

SIGNIFICANT NON-POINT SOURCES

LEGEND



Septic Tank
Drainage or
Urban Runoff
Problems



Landfills, Dumps
Junk Yards &
Permit Number



Sediment
Producing
Areas



Lumber
Operations



SCALE IN MILES

KENTUCKY WATER QUALITY MANAGEMENT PLAN

Prepared for Division of Water Quality

KENTUCKY DEPARTMENT FOR NATURAL RESOURCES
AND ENVIRONMENTAL PROTECTION

SCHIMPELER•CORRADINO ASSOCIATES
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SALT RIVER BASIN

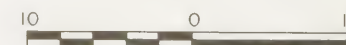


EXHIBIT 4.10m

SIGNIFICANT NON-POINT SOURCES

LEGEND

-  Septic Tank Drainage or Urban Runoff Problems
-  Landfills, Dumps Junk Yards & Permit Number
-  Sediment Producing Areas
-  Lumber Operations



SCALE IN MILES

KENTUCKY WATER QUALITY MANAGEMENT PLAN

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magnitude and in sufficiently close proximity to surface waters to create a significant nonpoint source problem area are known.

Animal Wastes. Although livestock populations in the basin are considerable, no concentrations of sufficient magnitude and in sufficiently close proximity to surface waters to create a significant nonpoint source problem area are known.

Urban Storm Water Runoff/Septic Tank Overflow.

Stormwater runoff and septic tank overflow present a significant nonpoint source problem when urban land activity reaches sufficiently high concentration. Those areas in the basin possessing a high concentration of urban land activity include segments SP-2, SF-1, SF-2, SF-3, SS-2, and SM-1, as illustrated in Exhibit 4.10m.

Resource Extraction. Although quarrying and mining operations can create serious nonpoint source problem areas, no known ground resource extraction operations in the basin are causes of significant nonpoint source problems.

Solid Waste Disposal. Although improper disposal of solid waste, in sufficient quantity and in close proximity to surface or groundwater resources, can create significant nonpoint source problems, no such areas are known to exist in the basin.

WASTEWATER CONTROL NEEDS

Wastewater treatment technologies that will meet increasingly stringent effluent standards are developed in this section. In all, ten effluent standard categories are defined, and their relationships to effluent quality objectives are discussed. Following this general discussion, the effectiveness of the various technologies in achieving BOD₅ and suspended solids removal, ammonia nitrogen removal, nitrogen removal, and phosphorus removal is considered. Possible upgrading alternatives for existing activated sludge, fixed film and lagoon wastewater treatment systems are then presented. The section closes with brief descriptions of the unit operations and unit processes which make up the wastewater treatment technologies considered in this section.

Wastewater treatment systems are composed of unit operations in which the application of physical forces predominate, and unit processes in which removal of pollutants is accomplished primarily by biological or chemical phenomena. Combinations of unit operations and processes have historically provided an extent of treatment known as primary or secondary. Treatment requirements beyond that provided by secondary unit operations have conventionally been termed as "tertiary treatment" or "advanced waste water treatment." Since the extent of treatment inferred by these terms is arbitrary, that treatment required beyond EPA-defined secondary may be determined by establishing the contaminant removals required prior to discharge or land application. The available unit operations and unit processes may then be grouped together on the basis of compatibility and performance criteria to obtain technologically feasible categories of effluent quality.

The conventional objectives of wastewater treatment are removal of 1) biodegradable organics, 2) suspended solids, and 3) nutrients (nitrogen

and phosphorus), and 4) destruction of pathogenic organisms by disinfection.

The objectives of secondary treatment have been the removal of biodegradable organics and suspended solids, and disinfection. More stringent standards have recently focused on nutrient removal for control of eutrophication and ultimate oxygen demand.

The results of an investigation concerning effluent quality requirements and available treatment technologies are shown on Exhibit 4.11t. The available treatment technologies are applied to five major wastewater treatment systems to obtain up-graded effluent standards. The five major wastewater treatment systems considered are (a) activated sludge, (b) fixed film, (c) lagoons and ponds, (d) land application, and (e) physical-chemical.

4

Ten effluent categories have been selected for this study. Except for EPA-defined secondary treatment, the effluent categories selected primarily represent typical effluent characteristics obtainable from alternative combinations of wastewater treatment processes (i.e. categories are based on technological break points, not on effluent quality standards).

Treatment levels have been established by the State of Kentucky River Basin Planning Group. These treatment levels with their effluent characteristics are related to the effluent categories defined for this study as follows:

Treatment Levels	Effluent Characteristics (mg/L)			Effluent Categories
	BOD ₅	NH ₃ -N	Do	
T1A	30	20	4	I
T1B	30	20	8	I & IX
T2A	20	15	4	II
T2B	20	15	8	II & IX
T3A	10	15	4	III
T3B	10	15	8	III & IX
T4A	10	4	4	III & VI
T4B	10	4	8	III & VI & IX
T5A	3	4	4	IV & VI
T5B	3	4	8	IV & VI & IX

The extent of unit operations and processes associated with each effluent category is primarily dependent on the basic BOD removal processes available and modifications required to meet upgraded effluent standards. The five basic types of biological removal processes are biological suspended growth, biological fixed film, lagoon options, land application, and physical-chemical treatment. The extent of treatment or number of unit processes required to meet a certain effluent category is also dependent upon the number and type of existing facilities and flow range. In certain instances, the application of alternative wastewater treatment processes has been divided into two basic design flow ranges, less than 1 mgd, and greater than 1 mgd. These design flow ranges have been selected to provide flexibility and

sensitivity in projecting the application of alternative technologies.

The series arrangements in Exhibit 4.11t of effluent quality standards and related applicable treatment unit processes does not necessarily imply a continuous series addition of treatment processes to obtain any one or any combination of desired effluent quality. All treatment processes which are individually capable of meeting any given combination of desired effluent quality would supersede the application of repetitive process requirements. For example a treatment process listed in effluent category VIII may also accomplish some or all of the effluent criteria of categories I through VII.

The ten effluent categories may be combined into 6 basic objectives of wastewater treatment according to effluent quality as follows:

Effluent Categories	Effluent Quality Objectives
I, II, III, IV	Carbonaceous BOD ₅ and SS removal
V, VI	Nitrification
VII	Nitrogen removal
VIII	Phosphorus removal
IX	Reaeration
X	Disinfection

Effluent Category I represents EPA-defined secondary treatment effluent standards and constitutes minimum treatment requirements. These effluent standards require BOD₅ and suspended solids effluent concentrations not to exceed 30 mg/L. Effluent Categories II, III, and IV represent increasingly stringent levels of BOD₅ and suspended solids removal. Effluent Category II includes all standards that permit concentrations of both BOD₅ and suspended solids to within a range of 20 to 30 mg/L. Effluent Categories III and IV include all standards which require both BOD₅ and suspended solids concentrations within a range of 10 to 20 mg/L, and less than 10 mg/L respectively. The applicability of utilizing various unit operations and processes to achieve these effluent standards is discussed later in this chapter.

Effluent Category V, seasonal nitrification to 4 mg/L NH₃-N, represents seasonal ammonia nitrogen oxidation to nitrite and nitrate. The 4 mg/L ammonia nitrogen value is intended to represent the limitations of the least efficient processes likely to be implemented for seasonal nitrification requirements. The process requirements incorporated within new systems will generally produce a better quality of effluent when compared to that available from process requirements applicable to upgrading existing secondary facilities.

Effluent Category VI, continuous nitrification to 4 mg/L NH₃-N, represents continuous oxidation of ammonia nitrogen. This category of effluent quality will generally require process additions to conventional secondary treatment.

Effluent Category VII, nitrogen removal to 2-5 mg/L total nitrogen, represents typical total nitro-

gen standards when such are established. Nitrogen removal to the stated effluent quality range represents two different systems applications. The lower range represents the minimum effluent concentrations currently feasible with available technologies. The upper range represents the application of ammonia removal processes - breakpoint chlorination and ammonia stripping - to biological secondary treated effluent. Nitrification must be limited in the secondary treatment carbonaceous oxidation process in order to meet the 5 mg/L total nitrogen effluent standard.

A particular note need be referenced to the fixed film nitrogen removal effluent category. Ammonia removal process additions to fixed film biological systems are not conventionally capable of obtaining the required nitrogen removal standards. The two limiting factors are the lack of control of nitrification in warm temperature conditions and the insufficient oxidation of organic nitrogen to ammonia nitrogen in cold temperature operation. Existing or sequential upgrading from secondary treatment, seasonal nitrification, and continuous nitrification are detailed in addition to new process application.

Effluent Category VIII represents phosphorus removal to 1.0 mg/L total phosphorus. The predominant process application for this effluent quality is metal salt addition to secondary or tertiary clarification processes.

Effluent Category IX, comprises reaeration to 5 mg/L DO. The selection of alternative processes available for reaeration will vary according to the type of secondary treatment process and the applicable flow range.

Effluent Category X, disinfection to 200 MPN per 100 ml. (fecal coliform) is intended to represent the EPA secondary treatment requirement.

BOD₅ and Suspended Solids Removal

Effluent Categories I, II, III and IV in Exhibit 4.11t are intended for the removal of BOD₅ and suspended solids. Effluent Category I is EPA-defined secondary treatment to achieve a concentration of 30 mg/L for both BOD₅ and suspended solids. Effluent Category I can normally be achieved by conventional activated sludge, fixed film, lagoons or land application processes.

Effluent Category II can normally be obtained by well operated, conservatively designed activated sludge processes. This category of effluent can also be achieved and exceeded by land application techniques following primary or secondary treatment processes.

Fixed film plants, as well as highly loaded activated sludge processes, will normally require the addition of chemicals to the secondary settling tanks and in some instances additional final settling tank capacity to achieve a concentration of 20 mg/L of both BOD₅ and suspended solids.

Effluent Categories III and IV, with the exception of processes using land application techniques, can only be achieved through the addition of process units to the basic treatment train (activated sludge, fixed film, physical-chemical). For these three treatment trains, the additional process units

provide sequentially, as required, some form of filtration, adsorption or chemical treatment.

Physical chemical processes followed by a biological activated sludge process will also achieve both effluent categories.

Ammonia Nitrogen Removal

Effluent Categories V and VI in Exhibit 4.11t are designed for nitrification or ammonia nitrogen removal. The selection of the appropriate processes to achieve nitrification of the wastes depends to a great extent on whether or not nitrification will be required during warm weather periods or throughout the year. This is so because the basic treatment processes, such as activated sludge and fixed film, can be designed or modified to provide the degree of nitrification required during warm weather conditions. It is for this reason that Exhibit 4.11t has two categories for effluent upgrading, one seasonal and the other for continuous operation.

In a system where continuous nitrification is required, biological suspended growth, fixed film, break point chlorination and ion exchange processes are all applicable. The selection of any particular process must of necessity be job specific, taking into consideration local factors such as overall effluent requirements, local economic and site conditions, and available operational skills.

Nitrogen Removal

Effluent Category VII is designed for nitrogen removal. Nitrogen removal can be required to limit eutrophication problems, and to limit the nitrate content where the receiving waters are used as a source of water supply. Since eutrophication problems are more economically, and normally better controlled through the limitation of phosphorus as a nutrient, nitrogen removal for this purpose is not widely practiced.

The selection of any particular process for the removal of nitrogen, depends to a great extent on the degree of nitrification that can be anticipated in the preceding process train. This is so, because such processes as ammonia stripping, break point chlorination and the ion exchange require a minimum nitrified influent if they are to operate efficiently. In other cases, the preceding process may inherently produce an effluent of such chemical composition, that it becomes advantageous to utilize a particular process for nitrogen removal. For example, the physical-chemical process can be easily operated to produce an effluent that will have a proper pH range for the efficient operation of the ammonia stripping process.

Phosphorus Removal

Carbon is a major eutrophic nutrient which occurs in such abundance naturally that it cannot be controlled by man. Phosphorus is a key nutrient in the control of eutrophication which can in part be controlled by man. Although phosphorus sources include runoff, industrial wastes, domestic wastes and animal wastes, the most controllable source of phosphorus in aquatic systems is municipal waste.

The major aquatic systems in which phosphorus creates problems are lakes, reservoirs, impoundments and other such water bodies. In these systems the hydraulic detention periods are great enough to allow for the quiescent conditions necessary for the proliferation of nitrogen-fixing blue-green algae. Normally the creeks, streams and rivers are not quiescent and therefore generally the algae growth is not a problem.

The phosphorus concentration is a typical municipal wastewater is about 10 mg/L. It has been reported that municipal wastes may be reduced by as much as 50 percent by eliminating the use of phosphates in detergents. Reduction of phosphates to minimal levels in municipal wastes may be accomplished by the addition of metal salts (aluminum or iron) and/or lime. The cost of this type of treatment is a factor in overall operating costs of treatment facilities.

Domestic wastewaters contain nitrogen to phosphorus ratios of about 3 to 4 parts of nitrogen to 1 part of phosphorus. Since green and blue-green algae cells normally contain 12 to 15 parts of nitrogen to 1 part of phosphorus, domestic wastewaters contain an excess of phosphorus over that amount that these algae are able to use. This excess quantity can be utilized by certain nitrogen fixing algae in nitrogen deficient waters and this is one of the mechanisms through which excessive algae blooms can occur, resulting in an increase in the nitrogen budget.

All algae, both green and blue-green thrive as long as both nitrogen and phosphorus are present. If nitrogen becomes limiting, certain species of blue-green algae, namely Nostoc, Anabaena, Aphanizomenon and Gleotrichia can still continue to thrive as long as phosphorus is available. This situation develops in lakes and reservoirs but has not been known to exist in rivers, except possibly in backwater areas.

Where phosphorus is present in excess, most algae use nitrogen and phosphorus in a ratio of about 15 to 1 and will flourish up to ratios of 30 to 1. Before phosphorus can become limiting, the phosphorus level must be reduced to less than 0.5 mg/L when total nitrogen equals 15 mg/L or less than 1.0 if it equals 30 mg/L. This criteria for limiting the discharge of phosphorus is only recommended in treatment plants tributary to impoundments and where there is clear evidence of excessive eutrophication. Removal of nitrogen on the basis of controlling eutrophication does not appear warranted.

As a concrete example of corrective action, municipal waste treatment plants which discharge into impoundments may consider including the facilities necessary for the future addition of metal salts. These features can be included during the next alteration or expansion program. The addition of the metal salts may not be necessary until the monitoring program determines that a potential problem exists.

Use of Exhibit 4.11t

To illustrate the use of Exhibit 4.11t, an example of upgrading an existing wastewater treatment system for an activated sludge option is presented.

Assume that a recently built activated sludge treatment plant of the conventional plug-flow design, which is presently operating to meet EPA-defined secondary treatment, needs to be upgraded to meet more stringent effluent requirements. The recently built plant is shown on Exhibit 4.11t-A under category I-A-1, where I indicates category I, A means a new or recently built plant, and 1 means reference 1 which indicates a conventional plug flow design. To simplify the selection process for upgrading, the plant flow is assumed to be greater than 1 mgd. Assume further that the treatment plant needs to be upgraded to achieve an effluent of 10 mg/L BOD₅ and 10 mg/L SS, and is required to achieve seasonal nitrification at present and continuous nitrification in the near future. There is also a possibility that nutrient removal, and reaeration may be required. Disinfection will also be required.

The effluent requirements for BOD₅ and SS indicate that the treatment plant must meet Effluent Category III. Under Effluent Category III, there are four available alternatives to upgrade an existing plant. These are: filtration, microscreens, land application, or immediate filtration. Any of these processes may be used to meet the BOD₅ and SS requirements. Intermittent sand filtration is not considered because the flow is greater than 1 mgd.

A conservatively designed conventional activated sludge treatment plant with proper operation and maintenance will normally achieve seasonal nitrification. Therefore, assuming that the plant is conservatively designed, in Effluent Category V under A - upgrading from secondary, there is only one alternative for the conventional plug-flow design -- that of adding air capacity and improving operation and maintenance. This completes the present treatment requirements. The plant, with seasonal nitrification now appears in Exhibit 4.11t-A at V-A-2, a conventional plug-flow design with added air capacity and improved operation and maintenance. Also, an effluent polishing technique has been added to reduce the effluent BOD₅ and SS each to 10 mg/L.

In the future when it becomes necessary to upgrade the treatment plant to achieve continuous nitrification, three alternatives will be available. In continuous nitrification under Effluent Category VI, under B - upgrading from seasonal nitrification, the three available alternatives following V-2 are: to add a second stage suspended growth nitrification unit, to add a second stage fixed-film nitrification unit, or to add an ion exchange unit. The plant now appears in Exhibit 4.11t-A at VI-B-1 with the addition of either nitrification unit alternatives, or at VI-B-3 with the addition of the ion exchange unit alternative.

If, in addition, nutrient removal (total nitrogen and total phosphorus) is also required, Exhibit 4.11t-A gives alternatives for obtaining these effectively. In Effluent Category VII, under C - upgrading from continuous nitrification, the alternatives are presented for total nitrogen removal. For the treatment plants at VI-B-1 with nitrification units either a suspended growth denitrification unit or a fixed-film denitrification unit could be added. If however the ion exchange unit had been chosen to achieve continuous nitrification, no further treatment would be required, since this process achieves the total nitrogen reduction as required.

If phosphorous removal is also required, effluent Category VIII presents two alternatives for phosphorus removal: metal salt addition to either primary or secondary treatment, or biological-chemical lime precipitation.

If reaeration of the effluent is required, effluent Category IX, presents three alternatives for achieving a minimum D.O. of 5 mg/l. These alternatives are: diffused aeration, mechanical aeration, or hydraulic aeration.

Effluent Category X, disinfection, presents three alternatives for meeting a fecal coliform count of 200 MPN/100 ml. These options are: an addition of chlorine, ozone, or hypochlorite.

Possible Upgrading Alternatives

Exhibit 4.11t is designed to indicate the most feasible technologies that are available to achieve any particular quality of effluent. This technology can be applied in new or upgrading situations,

Historically, many of the urban centers and small communities have provided wastewater treatment plants which incorporated the latest technology available at the time of design. In such cases, the effluent standards set by the regulatory agencies, the ease of operation, and local parameters were used in selecting the design technology. As the available technology has become more sophisticated and as the public has become more aware of the environmental impacts of wastewater pollution, the effluent standards have become more stringent. Accordingly, many of the existing wastewater treatment plants will require upgrading to meet these new standards.

Of particular interest is the technique that will be used in upgrading existing small wastewater treatment plants. This is because in the aggregate, these plants represent a large economic investment and, therefore, should have a capability of expansion and should provide some measure of flexibility and ease of operation.

In the following paragraphs various techniques that can be reasonably applied to upgrade activated sludge, fixed film and lagoon wastewater treatment systems to produce a nitrified effluent low in BOD₅ and suspended solids are presented and discussed.

		VIII		IX		X	
		PHOSPHORUS REMOVAL 1.0 MG/L (TOTAL P)		REAERATION 5.0 MG/L (O ₂)		DISINFECTION 200 MPN 100 ML (FECAL)	
A NEW		UPGRADING & NEW		UPGRADING + NEW		UPGRADING + NEW	
PRELIMINARY	FINE SCREENS	ACTIVATED SLUDGE	CONV. PLUG FLOW COMPLETE MIX STEP. AERATION PURE OXYGEN* * <u>>1</u> MGD	METAL SALT ADD. BIO-CHEM. LIME PREP.* * <u>>1</u> MGD	DIFFUSED AERATION (AIR-O ₂) MECHANICAL AERATION HYDRAULIC AERATION	CHLORINE OZONE HYPOCHLORITE	
			MODIFIED AERAT.	METAL SALT ADD. BIO-CHEM. LIME PREP.* * <u>>1</u> MGD	DIFFUSED AERATION (AIR-O ₂) MECHANICAL AERATION HYDRAULIC AERATION	CHLORINE OZONE HYPOCHLORITE	
			<u><5</u> MGD EXTENDED AERAT. (E.A.)	METAL SALT ADD. BIO-CHEM. LIME PREP.* * <u>>1</u> MGD	DIFFUSED AERATION (AIR-O ₂) MECHANICAL AERATION HYDRAULIC AERATION	CHLORINE OZONE HYPOCHLORITE	
			<u><5</u> MGD OXIDATION DITCH AER.	METAL SALT ADD. BIO-CHEM. LIME PREP.* * <u>>1</u> MGD	DIFFUSED AERATION (AIR-O ₂) MECHANICAL AERATION HYDRAULIC AERATION	CHLORINE OZONE HYPOCHLORITE	
			<u><5</u> MGD CONTACT STABIL. (C.S.)	METAL SALT ADD. BIO-CHEM. LIME PREP.* * <u>>1</u> MGD	DIFFUSED AERATION (AIR-O ₂) MECHANICAL AERATION HYDRAULIC AERATION	CHLORINE OZONE HYPOCHLORITE	

EXHIBIT 4.11t-A
WASTEWATER TREATMENT SYSTEMS
FOR ACTIVATED SLUDGE OPTIONS

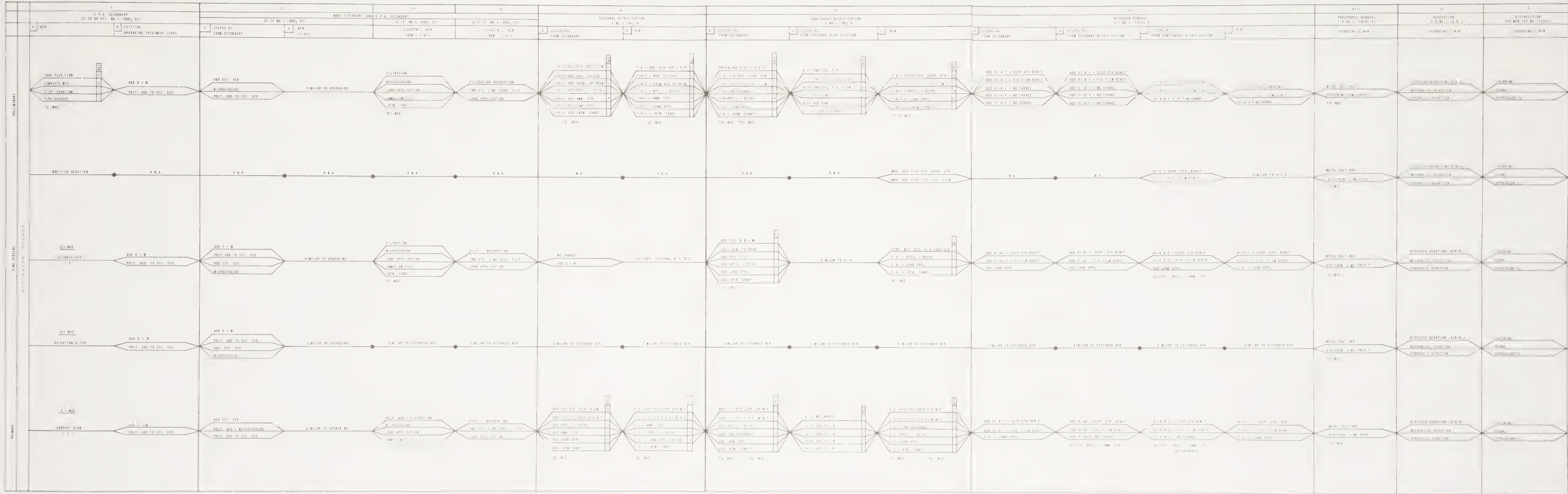


EXHIBIT 4.11t-A
WASTEWATER TREATMENT SYSTEMS
FOR ACTIVATED SLUDGE OPTIONS

			I	VIII	IX	X
			E.P.A. SECOND 30/30 OR 85% MG/L	PHOSPHORUS REMOVAL 1.0 MG/L (TOTAL P)	REAERATION 5.0 MG/L (D.O.)	DISINFECTION 200 MPH 100 ML (FECAL)
			A NEW	UPGRADING & NEW	UPGRADING & NEW	UPGRADING & NEW
PRIMARY	LOW RATE	TRICKLING FILTER	SINGLE STAGE	METAL SALT ADD.	DIFFUSED AERATION (AIR-O ₂) MECHANICAL AERATION HYDRAULIC AERATION	OZONE CHLORINE HYPOCHLORITE
	HIGH RATE	TRICKLING FILTER	TWO STG. + CHEM. ADD. TO SEC. SED.	METAL SALT ADD.	DIFFUSED AERATION (AIR-O ₂) MECHANICAL AERATION HYDRAULIC AERATION	OZONE CHLORINE HYPOCHLORITE
	ROTATING BIOLOGICAL CONTACTORS		CONVENTIONAL STAGED DESIGN	METAL SALT ADD.	DIFFUSED AERATION (AIR-O ₂) MECHANICAL AERATION HYDRAULIC AERATION	OZONE CHLORINE HYPOCHLORITE

EXHIBIT 4.11t-B
WASTEWATER TREATMENT SYSTEMS
FOR FIXED FILM OPTIONS

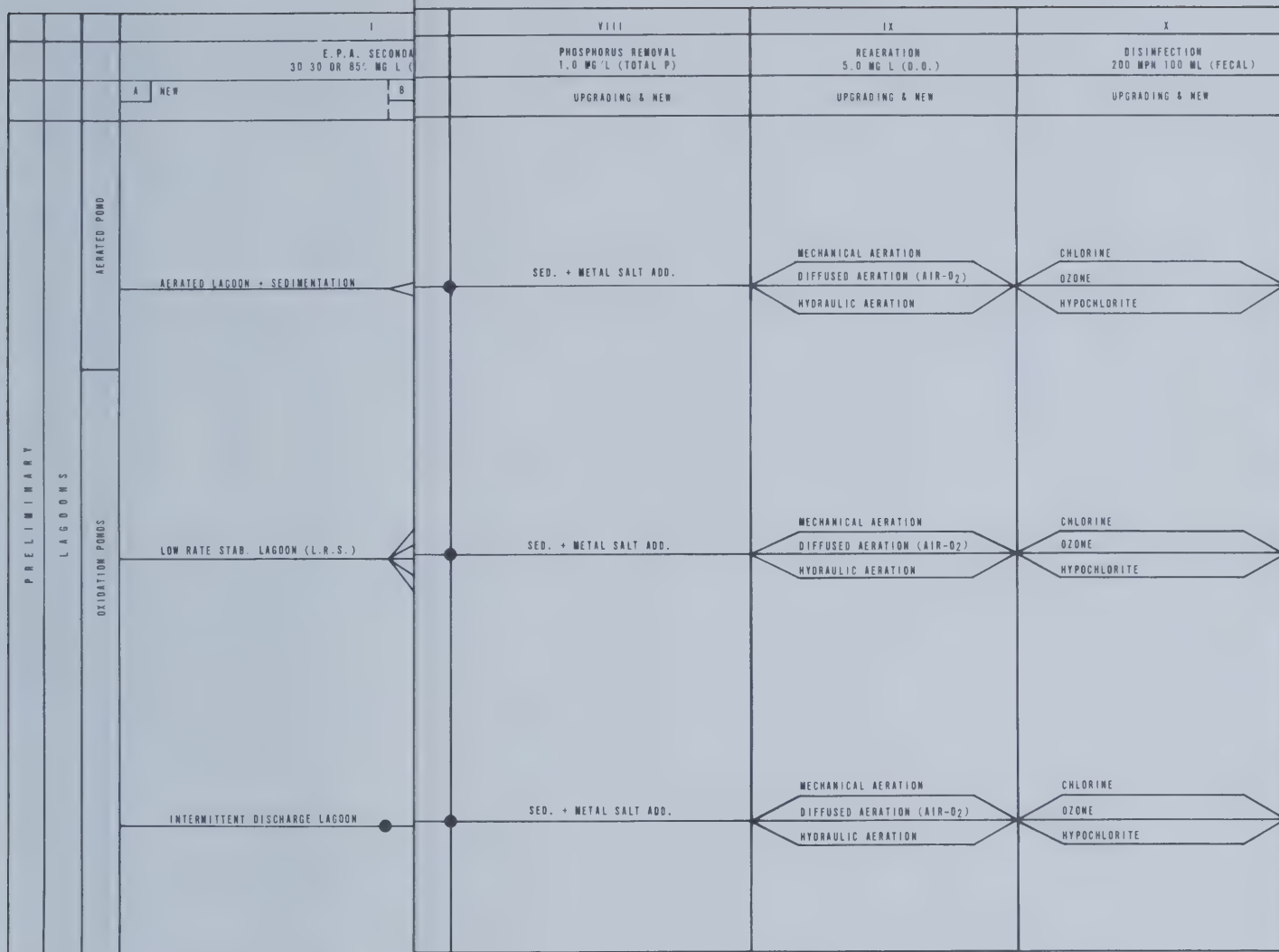


EXHIBIT 4.11t-C
WASTEWATER TREATMENT SYSTEMS
FOR LAGOON AND POND OPTIONS

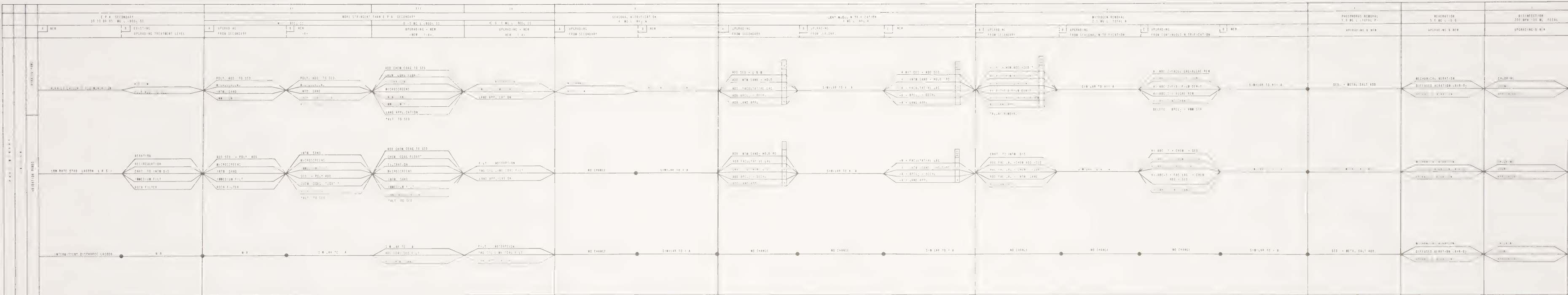


EXHIBIT 4.11t-C
WASTEWATER TREATMENT SYSTEMS
FOR LAGOON AND POND OPTIONS

		I	VIII	IX	X
		E.P.A. SECOND 30/30 OR 85% MG/L (	PHOSPHORUS REMOVAL 1.0 MG/L (TOTAL P)	REAERATION 5.0 MG/L (B.O.)	DISINFECTION 200 MPN 100ML (FECAL)
	A	NEW	UPGRADING + NEW	UPGRADING + NEW	UPGRADING + NEW
PRIMARY	PHYSICAL CHEMICAL	SINGLE STAGE LIME COAG-SED. + ADSORPTION (C.S.A.)	NO CHANGE	DIFFUSED AERATION (AIR-O ₂) MECHANICAL AERATION HYDRAULIC AERATION	CHLORINE OZONE HYPOCHLORITE
PRIMARY SECONDARY OR TERTIARY		IRRIGATION (IRG.) (UNDER DRAIN COLLECTION MODE)	IRG	DIFFUSED AERATION (AIR-O ₂) HYDRAULIC AERATION	CHLORINE OZONE HYPOCHLORITE
PRIMARY OR SECONDARY	LAND APPLICATION	INFILTRATION PERCOLATION (INF. PER.) (UNDER DRAIN COLLECTION MODE)	INF PER	DIFFUSED AERATION (AIR-O ₂) HYDRAULIC AERATION	CHLORINE OZONE HYPOCHLORITE
PRELIMINARY PRIMARY OR SECONDARY		OVERLAND FLOW (O.F.)	O.F.	DIFFUSED AERATION (AIR-O ₂) HYDRAULIC AERATION	CHLORINE OZONE HYPOCHLORITE
PRIMARY	INTERMITTENT SAND	< 1 MGD INTERMITTENT SAND (+ HOLD, PND)	SED. + CHEM. ADD.	DIFFUSED AERATION (AIR-O ₂) MECHANICAL AERATION HYDRAULIC AERATION	CHLORINE OZONE

*PROCESS APPLICATION TO COLD WEATHER DES
BASED ON ON CONTROL CHEMICAL COST SAVIN
PRECIPITATION PROCESS.

EXHIBIT 4.11t-D WASTEWATER TREATMENT SYSTEMS FOR PHYSICAL-CHEMICAL AND LAND APPLICATION OPTIONS

Activated Sludge

Existing Activated Sludge wastewater treatment plants can be upgraded by using the following techniques:

Unit Process	Alternative			
	1	2	3	4
Continuous Nitrification	Add Suspended Growth	Add Fixed Film	Add Breakpoint Chlorination-Dechlorination	---
Polishing BOD ₅ and Suspended Solids Removal	Multi Media Filter	Multi Media Filter	Multi Media Filter	Infiltration Percolation
Reaeration	Mechanical Aeration, Diffused Air, or Cascade	Mechanical Aeration, Diffused Air, or Cascade	Mechanical Aeration, Diffused Air, or Cascade	---
Disinfection	Chlorination	Chlorination	---	---

Under Alternative 3, the multimedia filter process should precede the breakpoint chlorination-dechlorination process within the treatment train. This procedure will reduce the chlorine demand of the wastewater effluent. The techniques shown above usually apply to plants that have design capacities in excess of 1 mgd. With the exception of Alternative 3, all of the alternatives are adaptable to plants having capacities of less than 1 mgd. Alternative 3 is not readily used in small plants because of the complexity and difficulty of properly controlling the breakpoint chlorination-dechlorination process. The land application

technique may be more advantageously and more properly applied to small plants because of the reduced land requirements. Alternative 4 is a land application technique, and as such is applicable only in those situations where the soil characteristics and groundwater hydrology will permit land disposal.

Fixed Film

Single stage high rate fixed film wastewater treatment plants can be upgraded by the following procedures:

Unit Process	Alternative			
	1	2	3	4
Increased BOD ₅ & Suspended Solids Removal	Additional High Rate Stage	Additional High Rate Stage	Additional High Rate Stage	Additional High Rate Stage
Continuous Nitrification	Suspended Growth	Fixed Film	Breakpoint Chlorination-Dechlorination	---
Polishing BOD ₅ and Suspended Solids Removal	Multi-Media Filter	Multi-Media Filter	Multi-Media Filter	Infiltration-Percolation
Aeration	Mechanical Aeration, Diffused Air, or Cascade	Mechanical Aeration, Diffused Air, or Cascade	Mechanical Aeration, Diffused Air, or Cascade	---
Disinfection	Chlorination	Chlorination	---	---

As in the case of activated sludge plants, the procedures above usually apply to plants larger than 1 mgd in capacity. For reasons previously stated, the breakpoint chlorination-dechlorination technique is usually not applicable to plants of less than 1 mgd in capacity, and the land application technique may be more reasonably adapted for smaller plants. The essence of the proposed treatment trains is providing an additional high rate stage in the fixed film process, to ensure a reduced BOD₅ load in the continuous nitrification process that follows the high rate stage. In some instances, it may be possible to design the continuous nitrification unit to properly nitrify on a year around basis the effluent from the existing single stage high rate fixed film wastewater treatment plant. In such cases, the additional high rate stage process will not be required.

Lagoons

Facultative lagoons in cold weather climates cannot consistently produce effluents that will meet secondary treatment standards. One mode of operation that can provide a higher quality of effluent is to have sufficient capacity to store wastewater during the winter months and discharge when the wastewater is of proper quality. Since the necessary input data to permit this mode of operation can only be obtained empirically and is site specific, the system does not lend itself to general selection procedures.

Facultative lagoons are normally designed to produce algae for the purposes of oxygen production, and to convert organic and inorganic pollution loads to cellular matter. The discharge of cellular matter that has an oxygen demand can have an adverse effect on the dissolved oxygen content within the receiving stream. One method of overcoming this objection is to aerate the wastewater contents of the lagoon by mechanical means, and to filter the effluent to remove any cellular matter. With the proper choice of design parameters, such a system can produce an effluent that is well nitrified and that has a low BOD₅ and suspended solids content.

DESCRIPTION OF INDIVIDUAL PROCESSES

The unit operations and unit processes that are designated in Exhibit 4.11t are briefly described in the following paragraphs:

Preliminary Treatment

Conventional:

The main objective of preliminary treatment is the removal of coarse solids. This is usually accomplished with bar racks or screens. Comminutors are sometimes used in place of racks or screens to grind up the solids without removing them from the wastewater. Grit chambers are designed to remove grit, consisting of sand, gravel, cinders, or other heavy solid materials that have settling velocities or specific gravities substantially greater than those of the organic putrescible solids in wastewater. Skimming tanks, grease traps, preaeration, and flocculation are additional processes that may be used to make primary treatment more effective.

Fine Screen:

Fine screens, or inclined wedge-wire screens, are static gravity strainers whose function is to remove solids. Fine screens can be used in lieu of conventional preliminary treatment and in some cases for primary treatment.

Primary Treatment

Sedimentation:

Primary sedimentation is used to remove settleable and floating material from wastewater under quiescent conditions. Sludge is collected in a hopper at the bottom of the tank and scum is skimmed from the surface. Chemicals may be added to promote the precipitation of phosphorus compounds, BOD₅ and suspended solids.

Secondary Treatment - Activated Sludge

The activated sludge process uses suspended microorganisms to oxidize, in the presence of molecular oxygen, soluble and colloidal organics contained in domestic wastewaters. During the oxidation process, new cells are synthesized. Some of the synthesized cells undergo auto-oxidation in the aeration tank, the remainder forming excess sludge. Oxygen is required in the process to support the oxidation and synthesis reactions. The solids generated must be separated in a settling tank, with the largest portion returned to the aeration tank, and the excess sludge withdrawn from the system for further handling and disposal. Due to the flexibility of the process an activated sludge plant may have various modifications.

Conventional (Plugflow):

One modification is referred to as the Conventional (Plugflow) process. In this process the return sludge is mixed with the incoming wastewater to the aeration tank, and the combined flow passes through the aeration tank with a minimum of mixing (Plugflow). The rate of return sludge usually varies from 15 to 75 percent of the average design flow, with an average rate of return of about 25 percent. The oxygen is normally supplied from an air source, and is dispersed in the aeration tank by mechanical or diffused air techniques.

Design of conventional activated sludge systems is generally based upon application of a volumetric loading rate and a relationship between the incoming organics and the amount of organisms in the system. The volumetric loading generally ranges between 20 and 40 lb. BOD₅/day/1000 ft.³; the ratio of incoming organics to cells in the system (F/M) is generally between 0.2 and 0.4 lb. BOD₅/lb. MLSS/day. At conservative design loading rates this process will also provide seasonal nitrification of wastewater effluent.

The process has certain design and operating limits, and for this reason other modifications have been developed.

Complete-Mix:

In the complete-mix process, influent wastewaters and recycle sludge are uniformly distributed throughout the aeration tank. This flow distribution results in a more uniform oxygen demand throughout the aeration tank when compared to the Conventional (Plugflow) process. This permits a greater operational stability when the system is subjected to slug loads. The process can be designed to accept higher volumetric loadings than the Conventional process with little, if any, reduction in efficiency. Volumetric loadings are 30-50 lb. BOD₅/day/1000 ft.³. The F/M ratio is 0.3-0.5 lb. BOD₅/lb. MLSS/day.

Step Aeration:

In a step aeration process, the influent wastewater is introduced at several points along the aeration tank. The return sludge is introduced at the head end of the tank as is the Conventional process. The process can accept higher volumetric loadings than the conventional process, without any reduction in treatment efficiency. Since the incoming flow is distributed along the length of the aeration tank, the initial oxygen demand is reduced below that experienced in the Conventional process. Volumetric loadings are 40-60 lb. BOD₅/day/1000 ft.³. The F/M ratio is 0.2-0.4 lb. BOD₅/lb. MLSS/day.

Pure Oxygen:

The use of pure oxygen rather than air as a source of molecular oxygen, has the advantage of permitting the highest available volumetric loadings of any known process, with a corresponding reduction in aeration tank capacity. The system also has the advantage of maintaining a high dissolved oxygen content in the effluent, and effective odor control. Pure oxygen systems are generally enclosed and operate under a slight pressure in an oxygen rich atmosphere. Volumetric loadings are 150-225 lb. BOD₅/day/1000 ft.³. The F/M ratio is 0.5-0.8 lb. BOD₅/day/1000 ft.³.

Modified Aeration:

The flow patterns for the incoming wastewaters and the returned sludge are the same as in the Conventional process. Since they are operated at substantially higher volumetric loadings, and F/M ratios, the biological activity is reduced. Aeration requirements and efficiencies are less than those of the conventional system due to this reduced biological activity. The volumetric loading is 75-150 lb. BOD₅/day/1000 ft.³. The F/M ratio is 1.5-5.0 lb. BOD₅/lb. MLSS/day.

Contact Stabilization:

As in the step aeration process this modification involves a change in feed location to the aeration tank. In the process, the return sludge is returned to a reaeration tank, and the incoming wastewater is mixed with the reaerated sludge in a contact tank. Air requirements are similar to those of the conventional process. The process, similar to the step-aeration process, is capable of accepting higher volumetric loadings than the conventional process without reductions in efficiency. Volumetric loading is 40-60 lb. BOD₅/day/1000 ft.³. The F/M ratio is 0.20-0.4 lb. BOD₅/lb. MLSS/day.

Extended Aeration:

The extended aeration process is a complete mix system that is designed to operate in the endogenous phase of the growth curve. This necessitates a relatively low organic loading and long aeration time. For this reason, the process is generally applicable only to small wastewater treatment plants of less than 1 mgd. capacity. Volumetric loading is 10-15 lb. BOD₅/day/1000 ft.³. The F/M ratio is 0.03-0.10 lb. BOD₅/lb. MLSS/day.

Oxidation Ditch:

The oxidation ditch process is an extended aeration process that can be designed to operate on an intermittent or continuous basis. Oxygen for the process is supplied from an air source by means of a series of hydraulically operated motors. Due to the allowable loadings, the process is applicable only to small treatment plants. Volumetric loading is 10-15 lb. BOD₅/day/1000 ft.³ and the F/M ratio is 0.03-0.10 lb. BOD₅/lb. MLSS/day.

Secondary Treatment-Fixed Film

Trickling Filters Low Rate:

A trickling filter is a biological reactor which provides surface area upon which microorganisms can grow. Wastewater is applied intermittently to the top of a bed of coarse stone or synthetic media. While percolating through the filter, the wastewater flows over the microbial film and the soluble organics are readily metabolized and the colloidal organics adsorbed onto the surface. The wastewater is collected at the bottom of the filter in an under-drain system and conveyed to a settling tank where excess biological growth is separated from the liquid effluent.

When used for conventional secondary treatment, low-rate trickling filters are designed for hydraulic loadings of 1-4 mgd/acre, and organic loadings of 5-20 pounds of BOD₅/day/1000 ft.³. Depending on the climate, conservative design loading rates may provide nitrification of the wastewater effluent.

Trickling Filters High Rate:

The biological process involved is the same for the low-rate trickling filters. High-rate trickling filters used for conventional secondary treatment are designed for hydraulic loadings of 10-40 mgd/acre and organic loadings of 30-60 lb. BOD₅/day/1000 ft.³. In contrast to the low-rate system, the recirculation of filter or clarifier effluent permits both higher and more uniform hydraulic loadings.

However, the higher organic loadings do not permit nitrification to occur as readily as in low-rate systems.

Rotating Biological Contactors:

Rotating Biological Contactors (RBC's) consist of a series of closely spaced circular discs of polyvinylchloride, 40 percent submerged in a vat of wastewater, and rotated slowly through the waste. Biological growths become attached to the surface of the discs and eventually form a slime layer over the entire surface area of the discs. The rotation of the discs alternately contacts the biomass with the organic material in the wastewater and then with the atmosphere for adsorption of oxygen. The disc rotation effects oxygen transfer and maintains the biomass in an aerobic condition. The rotation is the mechanism for removing excess solids from the discs by the shearing forces it creates, and also the means of maintaining the sloughed solids in suspension so they can be carried from the unit to a clarifier. In addition to their use for secondary treatment, RBC's can also be operated to accomplish seasonal and continuous nitrification.

Secondary Treatment-Lagoon

Aerated:

An aerated lagoon is a basin in which wastewater is treated on a flow-through basis. Oxygen is usually supplied by means of surface aerators or diffused aeration units. The action of the aerators and that of the rising air bubbles from the diffuser is used to keep the contents of the basin in suspension. In effect the essential function of this type of lagoon is waste conversion. In a completely mixed lagoon neither the incoming solids nor the biological solids produced settle out. Depending on the detention time, the effluent will contain about one-third to one-half the value of the incoming BOD₅ in the form of cell tissue. Before the effluent can be discharged, however, the solids must be removed by settling.

Low-Rate Stabilization:

A stabilization lagoon is a body of water contained in an earthen basin of controlled shape, which is designed for the purpose of treating wastewater. These ponds are also called oxidation ponds. Three zones exist in these ponds: (1) a surface zone where aerobic bacteria and algae exist in a symbiotic relationship, (2) an anaerobic bottom zone in which accumulated solids are actively decomposed by anaerobic bacteria, and (3) an intermediate zone that is partly aerobic and partly anaerobic, in which the decomposition of organic wastes is carried out by facultative bacteria. In these ponds, the suspended solids in the wastewater are allowed to settle to the bottom. The maintenance of the aerobic zone serves to minimize odor problems, because many of the liquid and gaseous anaerobic decomposition products, carried to the surface by mixing currents, are utilized by the aerobic organisms. Stabilization lagoons, also called facultative lagoons, have been used to provide seasonal and continuous nitrification of wastewater.

Intermittent Discharge:

Facultative lagoons are usually used and operated in series. Sufficient capacity is planned so that all the wastes can be held in the lagoon for a period of six months to one year. During the spring and/or fall period, and after the lagoon contents have stabilized, the final cell in the series arrangement is isolated from the preceding cells. This insures no subsequent short circuiting of any raw sewage for this period of time. The level of dissolved oxygen is measured in the final cell and in the stream along with the volume of flow in the stream. When all conditions are considered correct, the effluent line to the receiving water is opened and the contents of the final cell are discharged over a period of two weeks to one month. Intermittent discharge lagoons can be used to meet secondary effluent standards.

Secondary Treatment-Filtration

Intermittent Sand:

Intermittent sand filtration is a process in which wastewater is intermittently applied to a sand filter. After passing through the filter media, the effluent is collected in an underdrain system. Periodically, the filter media will become clogged with trapped particles. At this time the top surface of the filter is raked and/or replaced, and the cycle repeated. Intermittent sand filters require considerable land area and are therefore primarily used in rural areas where land is cheap. Intermittent sand filtration can also be used as a polishing process to upgrade existing wastewater treatment facilities.

Secondary Treatment-Physical-Chemical

Independent Two-Stage Lime Coagulation:

In the physical-chemical treatment process, lime is added to the raw wastewater in two stages to reduce the level of suspended organic solids and soluble phosphates. In the first stage sufficient lime is added to raise the pH over 11 to remove the phosphorus as a calcium phosphate precipitate and to form calcium carbonate as a coagulant for suspended solids removal. In the second stage gaseous carbon dioxide is added to lower the pH to approximately 10 in order to remove the excess soluble calcium as a calcium carbonate precipitate. The quantity of lime to be added is largely a function of the raw wastewater alkalinity and generally will fall in range of 300 to 400 mg/L of CaO for two-stage lime treatment. A large portion of this lime can be obtained from recovering the calcium in the sludge from the two clarifiers. The sludge is transported to a thermal regeneration facility where the calcium carbonate is decomposed to lime. The carbon dioxide from this thermal process, or another source of stack gases, can be used as the source of CO₂ in the second stage precipitation of calcium carbonate.

Polishing Techniques

Additional Secondary Sedimentation:

Secondary sedimentation is used to remove settleable and floating material from wastewater under quiescent conditions. Sludge is collected in a hopper at the bottom of the tank and scum is skimmed from the surface. Chemicals may be added to promote the precipitation of phosphorus compounds, BOD₅, and

suspended solids. Design of secondary sedimentation tanks is dependent on the type of biological treatment preceding it.

Additional secondary sedimentation is sometimes added to existing facilities to meet a more stringent effluent quality. This is basically accomplished because of the additional detention time and overflow rate provided, which makes a higher recovery of suspended solids possible.

Chemical-Polymer Addition to Secondary Clarifiers:

In certain processes solids may not flocculate and settle well in the secondary clarifier. This problem may become acute in plants that are overloaded. The addition of Al or Fe salts will cause the precipitation of metallic hydroxides and/or phosphates. Al and Fe salts, along with certain organic polymers will also destabilize colloidal particles. The resultant destabilized colloids and precipitates will settle readily in the secondary clarifier, reducing the effluent suspended solids, and effecting phosphorus removal.

Microscreens:

Microscreening is a physical straining process normally used to remove suspended solids from secondary effluents for polishing purposes. The process consists of a variable speed rotating drum mounted horizontally in a tank with two compartments. The influent enters the drum from one end and flows out radially through the filtering media attached to the drum's periphery. Backwashing is accomplished at the top of the drum where pressure jets of strained effluent are sprayed onto the screen to dislodge the accumulated solids. The solids flushed from the screen can be recycled to the head of the plant or conveyed to the sludge handling system.

Multi-Media Filtration:

Filtration is used in wastewater treatment as an intermediate or final polishing step for removal of suspended solids and will produce a small reduction in BOD₅. Additional phosphorus may also be removed if the wastewater is previously treated with alum. Multi-media filter beds have been composed of various combinations of anthracite, sand, garnet, and activated carbon. The process may require prechlorination to prevent buildup of biological growths on stationary components of filters. Backwash systems are required and high rate filtration may require a polymer feed system to contain breakthrough.

Immedium Filtration:

Immedium filters are primarily used in wastewater treatment as an intermediate or final polishing technique. Immedium filtration is a high rate upflow filtration process by which influent wastewater enters the bottom of the filter and flows upward through the filter bed. Backwashing involves pneumatic agitation of the media followed by washing, which expands the bed about 2 percent. Raw or filtered water can be used for backwashing because the filter is washed in the same direction as the flow.

Granular Carbon Adsorption:

Activated carbon treatment of wastewater is usually used as a final polishing process. Wastewater is passed through a columnar bed of granular activated carbon where certain soluble organics are physically and chemically adsorbed in the micropore structure of the carbon. Usually, there is biological activity within the column which aids in the removal of both soluble and suspended organic material. Filtration of suspended solids can be achieved depending on the design of the carbon column. Backwashing facilities are needed and a regeneration system is required to remove the material adsorbed on the carbon.

Powdered Carbon Adsorption:

Powdered activated carbon can be added to biological treatment effluents as a polishing process. The carbon can be added directly to the secondary clarifier or to a separate contact basin. Soluble organics are removed by both adsorption and biological processes on the carbon surface. Since the carbon is very fine, a coagulant may be needed to aid in the removal of carbon particles, or filtration may be required; a regeneration process has not yet been developed for powdered carbon.

Tertiary Two-Stage Lime Coagulation Filtration:

The two-stage lime coagulation-filtration process, as previously described under secondary treatment, can also be used as a tertiary polishing technique that will appreciably reduce the BOD₅ suspended solids and phosphorus concentration.

Upgrading Lagoons

Recirculation Pumping:

Recirculation pumping to upgrade lagoons involves interpond and intrapond recirculation as opposed to mechanical mixing in the pond area. The effluents from pond cells are mixed with the influents to the cells. In intrapond recirculation, effluent from a single cell is returned to the influent to that cell. In interpond recirculation, effluent from one pond is returned and mixed with influents to another pond. Both methods return active algae cells to the feed area to provide photosynthetic oxygen to satisfy the organic load. Recirculation can affect stratification in ponds, and thus gain some benefit ascribed to pond mixing. Pond recirculation is not generally as efficient as mechanical systems in mixing facultative ponds. The major advantages of recirculation are a decrease in the organic loading and prevention of odors and anaerobic conditions in the feed zone of the ponds. Recirculation is usually accomplished with high-volume, low-head pumps.

Aeration:

Aeration is used in upgrading lagoons to supplement the pond's photosynthetic oxidation capacity in instances where the pond must treat high seasonal BOD₅ loadings, or must operate under winter conditions, or where there is little room for expansion. This supplementation is usually achieved by installing compressed air diffusers or mechanical aerators. In addition to transferring oxygen to the liquid, aeration breaks up the thermal stratification that normally develops in oxidation ponds. The mixing derived from the aeration process tends to maintain

aerobic conditions deeper in the pond. Aeration systems also serve to prevent odors usually generated in overloaded ponds.

Rock Filters:

Submerged rock filters have been proposed as a method of upgrading lagoons by reducing the algae which is often present in the final effluent. The filters are constructed of rock sizes greater than 2.54 cm. and less than 12.70 cm. A biological slime layer becomes established on the filter media and as the wastewater flows through the filter horizontally, the suspended solids are adsorbed by the biological growth. During part of each year the biological slime layer will function in an anaerobic environment. Therefore, an aeration facility for the filter effluent will be required. The rate of solids accumulated in the filters is very slow making the effective life of the filter approximately 20-30 years.

Flotation-Clarification:

Flotation-clarification is a means of algae removal used in upgrading lagoons. Separation depends on the formation of fine bubbles that are physically attached to the algae causing them to float to the tank-water surface where they are collected and removed. Chemical coagulation enhances the removal. It is the algae-bubble-chemical matrix that is desired for good flotation, rather than large aggregates of chemically bound algae needed for sedimentation. No mechanical flocculation step is provided in flotation. Two modes are available for the formation of the fine bubbles: dissolved-air flotation and autoflotation. In dissolved-air flotation, a portion of the effluent or influent is pumped to a pressure tank where the liquid is agitated in contact with high-pressure air to supersaturate the liquid. When this pressurized stream is released into the influent, fine air bubbles are formed. These bubbles are then coagulated with the algae cells by the rapid addition of chemicals. The algae-chemical-bubble float is then removed at the surface of the tank. Autoflotation differs only in that no pressurization is required for the formation of the fine bubbles.

Seasonal Nitrification

Roughing Filter:

Roughing filters are fixed film biological systems in which a microorganism population develops on the wetted surfaces of the media. Roughing filters have been used ahead of conventional secondary treatment for reducing unusually high influent BOD₅ concentrations. In the seasonal nitrification application the purpose of the process is to reduce the organic load so that a downstream biological process will dependably nitrify the waste during the summer months.

Conventional Activated Sludge:

The conventional activated sludge process, as previously described under secondary treatment, can be used to provide seasonal nitrification of wastewater effluent at conservative design loading rates.

Low-Rate Trickling Filter:

A conservatively designed low-rate trickling filter process, as previously described under secondary treatment, can provide seasonal nitrification with low organic loadings.

Continuous Nitrification

Chemical Addition to Primary Treatment:

The additional BOD₅/SS removals afforded by chemical additions to primary treatment may solve overloading problems on downstream biological systems, or may allow nitrification - either seasonal or continuous, depending on the biological system designs. High pH primary effluents are amenable to NH₃ removal by ammonia stripping.

Suspended Growth:

In a controlled environment, certain microbial population will convert ammonia to nitrate in the presence of oxygen. Nitrosomonas act on dissolved ammonia to form nitrite, which in turn is converted to nitrate by Nitrobacter. This process is carried out in an activated sludge system downstream from conventional secondary treatment or primary treatment with chemical additions. The oxidation of ammonia to nitrate can be carried out with either air or pure oxygen. Because the microbial conversion causes a drop in pH, provision should be made for lime or caustic addition with low alkalinity wastewaters.

Extended Aeration Activated Sludge:

The extended aeration activated sludge process, as previously described under secondary treatment, can be used to provide seasonal or continuous nitrification of wastewater effluent at conservative design loading rates.

Oxidation Ditch Activated Sludge:

The oxidation ditch activated sludge process, as previously described under secondary treatment, can be used to provide seasonal or continuous nitrification of wastewater effluent at conservative design loading rates.

Second-Stage Trickling Filter:

Second-stage trickling filters have been utilized to obtain seasonal and continuous nitrification. Two trickling filters are operated in series with an intermediate clarifier between them. The first stage filter operates as an ordinary trickling filter and consumes most of the organic loading. When the wastewater reaches the second-stage filter the organic loading is very low and this allows autotrophic nitrifying bacteria to form on the filter media. These bacteria convert the ammonia present in the wastewater to nitrites and nitrates. The well-nitrified effluent reduces the total oxygen demand in the receiving water.

Rotating Biological Contactors:

The rotating biological contactors process, as described under secondary treatment, can also be used if properly designed to provide seasonal or continuous nitrification.

Intermittent Sand Filtration:

The intermittent sand filtration process, as previously described under secondary treatment, can be used to provide seasonal or continuous nitrification.

Facultative Lagoon:

Facultative lagoons have been used to provide seasonal and continuous nitrification of wastewater. For a description of the biological process involved, see Low-Rate Stabilization Lagoons under secondary treatment.

Nitrogen Removal

Breakpoint Chlorination:

When chloride gas is added to wastewater containing nitrogen in the ammonia form, hypochlorous acid reacts with ammonia to produce chloramines. Further addition of chlorine to the breakpoint converts the chloramines to nitrogen gas. The reactions involved are dependent on pH, temperature, contact time, and initial chlorine to ammonia rates. A pH control system is usually necessary. Air may be added to the reaction chamber to aid in mixing and to strip nitrogen trichloride, carbon dioxide, and nitrogen gases from solution. Due to toxicity, dechlorination often accompanies this process.

Ammonia Stripping:

Ammonia stripping involves the conversion of NH₄⁺ ions to dissolved NH₃ gas by raising the pH of the wastewater to 10.8-11.5. The ammonia is then removed from solution by providing air-water contact in stripping towers or ponds.

Selective Ion Exchange:

Certain natural zeolites will selectively remove ammonia from solution. This process is carried out in columnar reactors of either the gravity or pressure flow type. When a column's removal capacity is exhausted, the resin is regenerated.

Suspended Growth Dentrification:

Nitrogen in the form of nitrates can be converted to nitrogen gas by bacterial populations in the absence of oxygen. This process is carried out in a plugflow activated sludge system following any process that converts ammonia and organic nitrogen to nitrate (nitrification). The bacteria obtain energy for growth from the nitrate-nitrogen reaction, but require an external source of carbon for all synthesis, because nitrified effluents are usually low in carbonaceous matter. Methanol is commonly used as a carbon source, but nutrient poor industrial wastes have also been employed. Nitrogen gas formed in the denitrification reaction will hinder mixed liquor settling. Therefore, a nitrogen gas stripping reactor should precede the denitrification clarifier. Polishing of residual methanol-induced BOD₅ is an added benefit of the stripping tank.

Fixed Film Dentrification:

Nitrogen in the form of nitrates can be converted to nitrogen gas by bacterial populations in the absence of oxygen. This process is carried out in a columnar reactor containing stone or synthetic media size, this process may not need to be followed by a clarifier, as in the conventional trickling filter system. Adequate solids wasting occurs through the low level suspended solids carry-over in the effluent. Periodic backwashing and/or air scouring is necessary to prevent solids buildup in the column that can cause excessive head loss. As in the suspended growth denitrification system, an external carbon source is necessary; methanol is commonly used, and nutrient poor industrial wastes are potential carbon sources. Most applications of this process involve the downflow mode (either gravity or pressure), an expanded bed (upflow) technique has been tested.

Phosphorus Removal

Independent Physical-Chemical

Two-Stage Lime Coagulation:

The physical-chemical two-stage lime coagulation process, as described under secondary treatment, can be used to obtain phosphorus removal from wastewater effluents.

Chemical Addition to Primary Treatment:

Chemical addition to primary treatment can be used to obtain phosphorus removal from wastewater effluents.

In the chemical addition process, ionic forms of Ca, Fe, or Al are added to raw wastewater. The Fe or Al react with the soluble orthophosphorus to produce a precipitate. When lime is used, both the Ca and OH react with the ortho-P to form an insoluble hydroxyapatite. Organic Phosphorus and Poly-phosphate are removed by more complex reactions and by sorption onto floc particules. The insoluble phosphorus, as well as considerable BOD₅ and suspended solids, are removed from the system as primary sludge. Violent mixing and flocculation are necessary upstream of the primaries. Addition of polymers may be required to aid in settling. A base is sometimes necessary in low alkalinity waters to keep the pH in the 5-7 range with mineral addition. Lime recalcination will lower chemical costs, but is a feasible alternative only for larger plants. Phosphorus removal with lime is limited to about 30 percent because the higher pH levels required for more efficient removal are inhibitory to biological systems. Therefore, recarbonation may be required if high phosphorus removals are to be accomplished in the primaries and followed by biological systems.

Metal Salt Addition to Secondary Treatment:

Metal salts are added to the raw wastewater, activated sludge aeration tank, or to the final clarifier influent channel. With trickling filter systems, the salts are added to the raw wastewater or the filter effluent. Multipoint additions have been successful. Phosphorus is removed from the liquid phase through a combination of precipitation, adsorption, exchange, and agglomeration and it is wasted with the primary and/or secondary sludges. The use of lime or ferrous

salts is limited because they produce low phosphorus levels only at high pH's which are not compatible with biological treatment. Improved settling and lower effluent BOD₅ result from chemical addition, particularly if polymers are also added to the final clarifier.

Biological-Chemical:

This process utilizes both biological and chemical removal mechanisms to effect phosphorus removal with considerably reduced chemical usage than that of chemical addition methods. This process is only applicable to treatment plants that use the activated sludge form of secondary treatment.

The system consists of three major process steps; 1) Primary effluent enters the aeration tanks where biological absorption of the dissolved phosphorus in the wastewater is accomplished by the phosphorus deficient micro-organisms present; 2) The return sludge from the final clarifiers is introduced to an anaerobic stripping tank, similar to a gravity thickener, prior to recirculation to the aeration tank. Under anaerobiosis the microorganisms release the absorbed phosphorus to the supernatant and renders the return sludge to the aeration tanks devoid of phosphorus. The return sludge is then available to repeat the cycle; 3) The concentrated supernatant is treated with lime and returned to the primary clarifiers where the chemical sludge settles out with the primary sludge.

Land Disposal

Irrigation:

Irrigation is the most common land application technique and involves the application of primary or secondary effluent to the land for treatment and to aid the growth needs of plants. The wastewater is treated by physical, chemical, and biological means through interaction with the soil and plants. Effluent can be applied to crops or vegetation either by spraying or surface techniques for purposes such as avoidance of surface discharge of nutrients; economic return from use of water and nutrients to produce marketable crops; water conservation; or preservation and enlargement of greenbelts and open space.

Infiltration-Percolation

Infiltration-percolation consists of the application of effluent to the soil by spreading in basins or by spraying. Treatment occurs as the water percolates through the soil matrix. Because application rates are high, porous well-draining sand soils that function as natural filters are required. Infiltration-percolation systems can be designed for groundwater recharge; natural treatment followed by pumped withdrawal or underdrains for recovery; or natural treatment with renovated water moving vertically and laterally in the soil and recharging a surface water-course.

Overland Flow:

In this method of land application wastewater is sprayed over the upper reaches of sloped terraces and allowed to flow across the vegetated surface to runoff collection ditches. Renovation is accomplished by physical, chemical and biological means

as the wastewater flows in a thin sheet down the relatively impervious slope. It is essentially a biological treatment process with a minimum contact time between bacteria and wastewater required for adequate treatment.

Reaeration

Hydraulic:

Hydraulic aeration or cascade aeration is a post-aeration process which is used to increase the dissolved oxygen content of wastewater effluent. The plant effluent passes over a series of steps or weirs, at the base of which air is entrained and dissolved in an amount which is related primarily to the height of the fall.

Diffused Aeration:

Diffused aeration for reaeration increases the dissolved oxygen content of the effluent stream by bubbling compressed air into it through porous or nonporous media. Nonporous diffusers of the nozzle, orifice, and valve type release larger bubbles than porous diffusers. The design of the blowers is based on the static head of the liquid above the diffusers and at the distribution losses. Plug-flow is desirable as it promotes efficient performance of the diffused air reaeration process. Variations from established plugflow, in some instances, could lower this efficiency.

Mechanical

Mechanical aeration for reaeration increases the dissolved oxygen content of the effluent stream by creating turbulence and constantly changing the air-water interface. The design of mechanical aerators for aeration is based on the power required to produce the needed standard oxygen transfer rate. The actual horsepower required varies with the flow characteristics assumed in the reaeration basin. Complete mixing is usually assumed as it will result in a design which assures adequate oxygen distribution. Mechanical aeration can be accomplished in chlorine contact chambers. This eliminates additional land requirements and the construction of separate reaeration tanks.

Disinfection

Chlorine:

Chlorine is perhaps the most commonly used chemical disinfectant. As it is added to the effluent, readily oxidizable substances and organic matter react with the chlorine, reducing most of it to the chloride ion. After meeting this immediate demand, the chlorine will continue to react with the ammonia to form chloramines. With continued addition of chlorine, essentially all of the chloramines will be oxidized. Continued addition of chlorine will result in a directly proportional increase in the free available chlorine.

Hypochlorite:

Hypochlorite salts have also been added to wastewater effluent for disinfection. Sodium hypochlorite and calcium hypochlorite are the most commonly used. Once the salt dissociates, the reactions that take place are the same as for disinfection with chlorine. The use of hypochlorite salts for disinfection has increased during the past few years as a result of shortages and price escalation of liquid chlorine.

Ozone:

Ozone is used in the disinfection of wastewater effluent. Ozone is applied by mixing ozonized air with the water being treated. Organic matter in water has an ozone demand that must be met before the excess becomes available for germicidal activity. Once this demand has been satisfied, bactericidal action is very rapid. The higher the concentration of ozone the more rapid the disinfection. Ozone does not persist as a residual bactericide, but rapidly breaks down in water to oxygen. Due to lack of residuals there is no certainty of completion of disinfection and there remains the possibility of potential contamination once the initial demand is met. Ozone purification also reduces odor problems.

DISPOSAL OF TREATMENT PLANT RESIDUALS

Water pollution control involves removal of solids from wastewater at the treatment plant and subsequent processing, handling, transportation, and disposal of these solids. In the Salt River Basin, solids are usually treated, dried, and disposed of in sanitary landfills or upon the land as a soil conditioner. It is important that solids are dried and incorporated into the soil or cover material used in sanitary landfill operations. Industrial solids, which may be toxic, should be carefully disposed of to assure that groundwater and surface water supplies are not contaminated.

The Kentucky Department for Natural Resources and Environmental Protection, Division of Solid Waste, maintains a list of permitted sanitary landfill operations, industrial landfill operations, and other methods utilized for solid waste disposal. Exhibit 4.12t and Appendix B identify and locate the sanitary, industrial, and other disposal operations in the Salt River Basin. It should be noted that the sites are permitted until a certain date, and selection of permitted sanitary landfills for the disposal of dried solids should carefully consider the capacity of available landfills and associated time constraints. Exhibit 4.13t lists the projected sludge volumes for the counties in the basin.

Use of "dumps" rather than sanitary landfills can create water pollution problems. In open dumps, there is no control over the amount of rainwater draining to and through the dump. Because of the large volume of water that can reach solid waste in an open dump, a larger volume of leachate (liquids or soluble materials generated as solid waste decomposes) could be carried to nearby groundwater or surface waters. A properly operated sanitary landfill minimizes rainfall penetration and drainage of leachates.

Improper treatment and disposal of sewage sludge can also promote water pollution at the disposal sites. Untreated wet sludge will cause drainage of undesirable bacteria at the disposal site. Sludge that has been treated and dried can be used to supplement the cover material at a sanitary landfill, or to condition the soil in land application operations. The Jeffersontown sewage treatment facility, one of the largest facilities in the Salt River Basin, treats sewage sludge and dries the sludge in drying beds; a few nearby farms then transport the treated, dried sludge for use as a soil conditioner.

In summary, properly treated and disposed sludge can benefit the soil and serve as cover material at sanitary landfills. In addition, properly operated sanitary landfills can minimize water pollution potential from solid waste by minimizing drainage to groundwater and surface waters.

Exhibit 4.12t SOLID WASTE DISPOSAL SITES - SALT RIVER BASIN

Permit Number	Type	County	Segment Number	Owner
003.01	Sanitary Landfill	Anderson	SS-15	William R. Shields, Lawrenceburg
015.01	Sanitary Landfill	Bullitt	SR-01	Bullitt Fiscal Court, Lebanon Junction
015.04	Sanitary Landfill	Bullitt	SS-03	James B. Beam Distilling Co., Clermont
015.05	Industrial Landfill	Bullitt	SS-02	James H. Smith, Shepherdsville
056.01	Industrial Landfill	Jefferson	SP-02	General Electric Co., Louisville
056.08	Sanitary Landfill	Jefferson	SP-02	Mobile Waste Controls of Kentucky, Lou.
056.18	Industrial Landfill	Jefferson	SP-02	William Mattingly, Louisville
056.24	Other Methods	Jefferson	SF-03	Hobert Jones, Jeffersontown
073.03	Sanitary Landfill	Marion	SB-03	City of Lebanon, Lebanon
093.01	Sanitary Landfill	Oldham	SF-04	Red-Penn Sanitation Co., Inc., Pewee Val.
062.01	Sanitary Landfill	Larue	SR-03	William Harvey, White City
090.01	Sanitary Landfill	Nelson	SB-01	City of Bardstown, Bardstown
084.05	Sanitary Landfill	Mercer	SS-17	City of Harrodsburg, Harrodsburg
108.01	Sanitary Landfill	Spencer	SS-13	Williams Sanitation Service, Taylorsville
115.01	Sanitary Landfill	Washington	SB-04	City of Springfield, Springfield
106.01	Sanitary Landfill	Shelby	SS-11	Solid Waste Commission, Shelbyville

Exhibit 4.13t PROJECTED SLUDGE VOLUMES BY COUNTY -
SALT RIVER BASIN

County	Population ²	Sludge ¹	Number of Sanitary Landfill Disposal Sites ³
Anderson	8,979	89.8	1
Boyle	5,069	50.7	3
Bullitt	39,368	393.7	3
Casey	839	8.4	0
Hardin	48,585	485.9	3
Henry	3,342	33.4	1
Jefferson	216,325	2,163.3	5
Larue	1,793	17.9	1
Marion	18,161	181.6	1
Mercer	13,906	139.1	1
Nelson	25,503	255.0	1
Oldham	3,349	33.5	1
Shelby	18,325	183.3	2
Spencer	7,103	71.0	1
Washington	11,407	114.1	1

¹Organic sludge, 30% solids by weight.

²In or adjacent to the Salt River Basin area.

³1980 Population Inside Salt River Basin Area.

BASINWIDE MANAGEMENT PLAN

INTRODUCTION

Chapter III provided a general description of the basin including the socioeconomic parameters and the existing water quality conditions. Chapter IV lists the existing significant wastewater sources and the classification of water quality and effluent limitation segments. This chapter provides the basinwide management plan which establishes (1) wasteload characteristics for water quality segments, (2) municipal water quality needs and priorities, (3) compliance schedules for industrial, domestic, and nonpoint sources, (4) a water quality monitoring and surveillance program, (5) the relationship and coordination of the basin plan with other plans, and (6) land use policies and controls which may affect the basin plan.

Wasteload allocations for water quality segments are given including the total maximum daily loads based on 1980 discharges, and the maximum theoretical daily load based on average streamflow conditions. The University of Kentucky and the University of Louisville performed the water quality modeling for predicting wasteload allocations (allowable wasteloads) which would meet water quality standards.

Municipal water quality needs and priorities are given for those municipalities or sewer districts which have a wastewater treatment facility. Other municipalities or sewer districts which are eligible for federal funds for wastewater treatment or related facilities are also listed. Each eligible municipality has been assigned a priority value for determination of potential federal grant funding for 1975. Based upon given wasteload allocations, compliance goals for effluent quality and corresponding treatment and collection needs and costs are listed for each municipality.

Wasteload allocations and compliance schedules for industrial, domestic, and nonpoint sources are outlined for the significant dischargers which are outlined in Chapter IV. Since these facilities are given in Chapter IV. Since these facilities are not been assigned and no costs are given. Appendix B lists compliance schedules for all discharges.

A water quality monitoring and surveillance program to identify in-stream water quality violations and wastewater source (effluent) violations is recommended. This program includes water quality monitoring stations for in-stream sampling, and a surveillance program for determination of effluent characteristics.

The relationship of the basin plan with other water quality and water resource planning efforts is described and a coordination between planning efforts is recommended. Of particular interest are the 201 (municipal facilities plans) which have been recently completed or initiated. The Louisville-Jefferson County 201 Facilities Plan has recently been completed and wastewater management plans for the Pond Creek and Floyds Fork areas of Jefferson County have been coordinated with the Salt River Basin plan.

Land use policies and controls which may be utilized to control projected growth in severe water quality problem areas are identified. Land use control as an environmental control mechanism would have long-term implications, and could minimize water quality problems as well as wastewater treatment costs by consideration of severe water quality problem areas in land use planning efforts.

In summary, the basinwide management plan recommends compliance schedules and wasteload allocations for significant wastewater sources, a program for identifying water quality problems, and coordination with other plans and land use policies.

WASTELOAD CHARACTERISTICS OF WATER QUALITY SEGMENTS

Water quality segments and segment priority ranking are defined in Chapter IV. Exhibit 5.1t describes the wasteload characteristics of water quality segments according to total maximum daily loads (TMDL), maximum theoretical daily loads (MTDL), and segment priority number. These wasteload allocations are primarily based upon the water quality modeling performed by the University of Kentucky and the University of Louisville. Two wasteload allocations are defined for each water quality segment.

The total maximum theoretical daily load (TMDL) was determined by the following formula:

$$TMDL = 8.34 \sum_{i=1}^n Q_i \text{TOD}_i$$

For each water quality segment, TMDL was calculated by determining the following parameters for use in the above formula.

Q_i = 1980 Q (flow in cfs) for the i^{th} discharge (mgd)

TOD_i = TOD (total oxygen demand in mg/l) concentration associated with the treatment level required for the i^{th} discharge as follows:

Treatment Level	TOD(mg/l)
T1	135
T2	98
T3	83
T4	20
T5	9

n = number of all point discharges in the segment

The maximum theoretical daily load (MTDL) was determined by the following formula:

$$MTDL = 17.2 k_a t Q$$

For each water quality segment, MTDL was calculated by determining the following parameters for use in the above formula.

Exhibit 5.1t WASTELOAD CHARACTERISTICS OF WATER
QUALITY SEGMENTS - SALT RIVER BASIN

Segment Number	TMDL ¹ lb/day TOD	MTDL ² lb/day TOD	Segment Priority Number
SB-01	149.48	1,390.13	537.0
SB-02	60.88	580.70	7.3
SB-03	167.13	852.56	301.8
SB-04	253.37	317.91	173.2
SB-05	64.38	221.82	29.0
SF-01	495.39	3,712.10	915.1
SF-02	341.27	1,152.76	467.3
SF-03	209.83	3,319.16	296.2
SF-04	27.19	136.42	3.3
SM-01	667.20	3,681.63	330.7
SM-02	226.85	711.13	227.0
SP-01	0.00	0.00	0.0
SP-02	2,122.86	7,930.26	2,236.0
SR-01	49.54	747.03	56.3
SR-02	52.04	796.40	23.1
SR-03	65.22	325.07	29.1
SR-04	25.35	194.30	3.1
SS-01	0.33	2,836.05	0.0
SS-02	220.34	2,437.92	212.5
SS-03	56.71	70.07	92.9
SS-04	32.52	1,221.92	3.9
SS-05	40.03	243.80	4.8
SS-06	69.22	76.84	29.9
SS-07	16.68	877.06	27.6
SS-08	8.84	54.35	1.1
SS-09	81.73	90.31	58.3
SS-11	158.13	852.45	151.2
SS-12	49.54	812.93	6.0
SS-13	31.19	1,350.00	3.7
SS-14	17.51	1,275.16	2.1
SS-15	92.74	100.04	126.4
SS-16	5.67	132.99	0.0
SS-17	179.14	445.89	253.0

¹TMDL is the total minimum daily load in pounds of total oxygen demand (TOD) per day.

²MTDL is the maximum theoretical daily load in pounds of total oxygen demand (TOD) per day.

³SB-06, SR-05, SS-10, and SS-18 are effluent limitation segments.

k_a = average k_a value for the main stem reach of the segment

t = time of travel (days) through the main stem reach of the segment

Q = average Q (cfs) value through the main stem reach of the segment.

- A - assigned for a community in an SMSA
- B - assigned if a community is over 10,000 and not in an SMSA
- C - assigned if a community is less than 10,000 and not in an SMSA.

An additional lower case letter is assigned as the project relates to the 201 status as follows:

- a. Step No. 1 initiation
- b. Step No. 2 initiation
- c. Step No. 2 completion.

MUNICIPAL WATER QUALITY NEEDS AND PRIORITIES

EPA defines a municipality eligible for EPA construction grant funds as "a city, town, borough, county, parish, district or other public body created by or pursuant to state law, or an Indian tribe or an authorized Indian tribal organization, with jurisdiction over disposal of sewage, industrial wastes, or other wastes."¹

EPA² requires that the state establish and maintain a State Municipal Discharge Inventory. The inventory shall include a ranking of significant municipal discharges and shall be revised and submitted to EPA at least once a year. The inventory shall be used to establish priorities and to provide cost estimates for municipal facilities construction and other state program actions. The ranking of significant municipal discharges by the state shall be consistent with the segment priority rankings.

Pursuant to EPA regulations, the Kentucky Department for Natural Resources and Environmental Protection has developed a municipal construction grant priority formula, using the following information: the segment priority (except metallic, thermal, and nonpoint sources), the national interest, and "needs" survey (cost estimates for municipal facilities), and the 201 project status. The total estimated cost of a municipal facilities project is divided by the individual unit costs (treatment, I/I, etc.) and multiplied times the appropriate factor which relates to items 1 through 5 below; this product is then multiplied by the segment priority (except metals, thermal and nonpoint source). The resulting numbers for items 1 through 5 are then summed to yield the municipal construction grant priority number.

<u>Product Type</u>	<u>Factor</u>
1. Treatment	
T1	2.0
T2	2.5
T3	3.5
T4	4.5
T5	6.0
2. Infiltration/Inflow	1.5
3. Interceptor	2.0
4. Collection Sewers	1.0
5. Combined Sewers	0.5

After the priority number is obtained, a capital letter is assigned according to population status as follows:

¹40CFR35.805-4 Municipality.

²40CFR130.43 State municipal discharge inventory: priority ranking.

Exhibit 5.2t (Municipal) lists the significant municipal discharges and their construction grant priority, wasteload allocation, 1980 and 1995 compliance goals, treatment needs, and estimated 1980 costs.

DOMESTIC, INDUSTRIAL, AND NONPOINT SOURCE WATER QUALITY NEEDS AND PRIORITIES

Significant domestic, industrial, and nonpoint discharges are also listed in Exhibit 5.3t (Significant Discharges Other Than Municipal). Since these discharges are not eligible for state and federal funds, the construction grant priority ranking and the estimated construction costs do not apply. Therefore, the cost column is omitted and the construction grant priority ranking is replaced by the segment priority. Wasteload allocations, 1980 and 1995 compliance goals, and treatment needs are listed for each source.

WATER QUALITY MONITORING AND SURVEILLANCE

EPA³ requires that each basin plan contain a program to monitor the total stream pollutant loadings from discharges within the basin, and a continuing program for monitoring in-stream water quality.

The National Pollutant Discharge Elimination System requires permit holders to allow EPA or the state (1) to examine effluent records and equipment and (2) to sample effluent discharges. Discharge characteristics records are required for BOD₅, suspended solids, fecal coliform bacteria, and daily flow. The state should rely upon effluent records given by permit dischargers as much as possible because the manpower and cost requirements of an effluent sampling program in addition to water quality monitoring would be prohibitive. For the purposes of the 303e planning effort, influent characteristics data as outlined by water quality modeling efforts are of prime importance for the determination of required treatment levels. These data include BOD₅, DO, NH₃-N, temperature, and pH. Therefore, similar facilities primarily handling domestic wastes could be statistically sampled to characterize influent characteristics. Influent characteristics of municipal dischargers handling significant industrial flow should be sampled if adequate data are not available. Industrial sources should be required to provide necessary data. Therefore, a minimal influent discharge sampling effort for 303e planning should be pursued. Compliance monitoring of existing effluent discharges should be accomplished through existing records and updates of these records for the next five years.

³40CFR131.400, Monitoring and Surveillance.

Exhibit 5.2t BASINWIDE NEEDS FOR 1980 AND 1995 (MUNICIPAL) - SALT RIVER BASIN

Construction Grant Priority	Code Number	Facility	Non-Conservative Wasteload Allocation lb/day TOD	Compliance Goals 1980(1995)					Treatment Needs 1980 (1995)	Costs* Million \$ 1980
				Flow mgd	BOD5 mg/l	SS mg/l	NH ₃ mg/l	DO mg/l		
1461Ca	10212101	Bardstown	113.09	0.68 (0.95)	10 (10)	15 (15)	1 (1)	8 (8)	T4B (T4B)	T-0.564 I/I-0.462 I-0.128 C-0.641 CS-0.000
80Ca	11212506	Bloomfield	80.99	0.10 (0.15)	10 (10)	15 (15)	15 (15)	8 (8)	T3B (T3B)	T-0.180 I/I-0.076 I-0.027 C-0.133 CS-0.000
166Ca	11012509	Eminence	41.03	0.25 (0.33)	10 (10)	15 (15)	1 (1)	8 (8)	T4B (T4B)	T-0.324 I/I-0.183 I-0.029 C-0.143 CS-0.000
557Ca	10312517	Harrodsburg	137.11	0.82 (1.24)	10 (10)	15 (15)	1 (1)	8 (8)	T4B (T4B)	T-0.756 I/I-0.504 I-0.222 C-1.108 CS-0.000
1766Ab	10512202	Jeffersontown	210.01	1.90 (4.00)	10 (0)	15 (0)	1 (0)	8 (0)	T4B (To West County STP)	T-2.488 I/I-0.791 I-0.000 C-0.000 CS-0.000
342Ca	10412515	Lawrenceburg	75.73	0.45 (0.70)	10 (10)	15 (15)	1 (1)	8 (8)	T4B (T4B)	T-0.480 I/I-0.339 I-0.051 C-0.255 CS-0.000
777Ca	10812103	Lebanon	100.08	0.60 (0.75)	10 (10)	15 (15)	1 (1)	8 (8)	T4B (T4B)	T-0.390 I/I-0.005 I-0.058 C-0.291 CS-0.000
157Aa	10912601	Lebanon Junction	39.70	0.20 (0.26)	10 (10)	15 (15)	1 (1)	8 (8)	T4B (T4B)	T-0.444 I/I-0.151 I-0.058 C-0.291 CS-0.000
4401Ab	11512402	Okolona	294.74	1.60	0	0	0	0	(To West County STP)	T-0.000 I/I-0.836 I-2.663 C-0.000 CS-0.000
106Ca	11412105	Perryville	13.84	0.08 (0.11)	10 (10)	15 (15)	1 (1)	8 (8)	T4B (T4B)	T-0.168 I/I-0.045 I-0.151 C-0.301 CS-0.000
425Ca	10612302	Radcliff	140.78	0.90 (1.10)	10 (10)	15 (15)	1 (1)	8 (8)	T4B (T4B)	T-0.672 I/I-0.395 I-0.374 C-1.871 CS-0.000

*T - Treatment facility cost

I/I - Infiltration/Inflow correction cost

I - Interceptor cost

C - Collector cost

CS - Combined
sewer cost

Exhibit 5.2t BASINWIDE NEEDS FOR 1980 AND 1995 (MUNICIPAL) - SALT RIVER BASIN (CONT'D)

Construction Grant Priority	Code Number	Facility	Non-Conservative Wasteload Allocation lb/day TOD	Compliance Goals 1980(1995)					Treatment Needs 1980 (1995)	Costs* Million \$ 1980
				Flow mgd	BOD ₅ mg/l	SS mg/l	NH ₃ mg/l	DO mg/l		
262Ca	10712511	Shelbyville	95.08	0.57 (0.96)	10 (10)	15 (15)	1 (1)	8 (8)	T4B (T4B)	T-0.444 I/I-0.346 I-0.155 C-0.773 CS-0.000
387Aa	11312502	Shepherds-ville	70.06	0.42 (1.00)	10 (10)	15 (15)	1 (1)	8 (8)	T4B (T4B)	T-0.768 I/I-0.196 I-0.500 C-2.495 CS-0.000
496Ca	10112104	Springfield	55.05	0.33 (0.45)	20 (20)	30 (30)	15 (15)	8 (8)	T2B (T2B)	T-0.360 I/I-0.265 I-0.022 C-0.112 CS-0.000
90C	11112507	Taylorsville	16.68	0.10 (0.20)	10 (10)	15 (15)	1 (1)	8 (8)	T4B (T4B)	T-0.276 I/I-0.085 I-0.015 C-0.074 CS-0.000
4472Ab	23712402	Hollyvilla Sewer Const. District	10.01	0.06 (0)	10 0	15 0	1 0	8 0	T4B (To West County STP)	T-0.060 I/I-0.000 I-0.000 C-0.000 CS-0.000
4718Ab	22812402	Minor Lane Heights	0	0	0	0	0	0	(To West County STP)	T-0.000 I/I-0.139 I-0.642 C-0.000 CS-0.000
444Ab	26012203	Woodland Hills	0	0	0	0	0	0	To Morris Forman STP (1995-To West Co STP)	T-0.000 I/I-0.066 I-0.000 C-0.000 CS-0.000
3354Ab	22912402	Silver Heights Sewer Const. District	0	0	0	0	0	0	To West County STP	T-0.000 I/I-0.120 I-0.000 C-0.000 CS-0.000
0	21212402	Shady Villa Sewer Const. District	40.03	0.24	10 (0)	15 (0)	1 (0)	8 (0)	T4B (To West County STP)	T-0.000 I/I-0.000 I-0.000 C-0.000 CS-0.000
3354Ab	23312402	Maple Grove Sewer Const. District	0	0	0	0	0	0	To West County STP	T-0.000 I/I-0.097 I-0.000 C-0.000 CS-0.000
0	21312402	Poplar Level Sewer Const. District	0	0	0	0	0	0	To West County STP	T-0.000 I/I-0.000 I-0.000 C-0.000 CS-0.000

*T - Treatment facility cost

I/I - Infiltration/Inflow correction cost

5-5

I - Interceptor cost

C - Collector cost

CS - Combined sewer cost

Exhibit 5.2t BASINWIDE NEEDS FOR 1980 AND 1995 (MUNICIPAL) - SALT RIVER BASIN (CONT'D)

Construction Grant Priority	Code Number	Facility	Non-Conservative Wasteload Allocation lb/day TOD	Compliance Goals 1980(1995)					Treatment Needs 1980 (1995)	Costs* Million \$ 1980
				Flow mgd	BOD5 mg/l	SS mg/l	NH3 mg/l	DO mg/l		
0	21912402	Waterfern Hills-Fern Creek Garden Sewer Const. District	0	0	0	0	0	0	To West County STP	T-0.000 I/I-0.000 I-0.000 C-0.000 CS-0.000
(NG)*Aa	NG	Southern Acres Sewer Const. Dist.	NG	NG 0	10 0	15 0	1 0	8 0	T4B (To West County STP)	T-NG I/I-NG I-NG C-NG S-NG
3509Aa	11612201	Mt. Washington	35.03	0.21 (0.58)	10 (10)	15 (15)	1 (1)	8 (8)	T4B (T4B)	T-0.670 I/I-0.000 I-0.209 C-1.045 CS-0.000
683C	11712301	West Point	31.69	0.19 (0.24)	10 (10)	15 (15)	1 (1)	8 (8)	T4B (T4B)	T-0.405 I/I-0.000 I-0.187 C-0.933 CS-0.000
10C	11812204	Smithfield	3.34	0.02 (0.03)	10 (10)	15 (15)	1 (1)	8 (8)	T4B (T4B)	T-0.135 I/I-0.000 I-0.019 C-0.093 CS-0.000
0	11912402	Hollow Creek	0	0	0	0	0	0	0 (To West County STP)	T-0.000 I/I-0.000 I-0.000 C-0.000 CS-0.000
67C	12012603	Loretto	18.35	0.11 (0.15)	10 (10)	15 (15)	1 (1)	8 (8)	T4B (T4B)	T-0.330 I/I-0.000 I-0.107 C-0.534 CS-0.000
18C	12112505	Fairfield	3.34	0.02 (0.03)	10 (10)	15 (15)	1 (1)	8 (8)	T4B (T4B)	T-0.390 I/I-0.000 I-0.018 C-0.089 CS-0.000
67Ca	12212603	New Haven	18.35	0.11 (0.14)	10 (10)	15 (15)	1 (1)	8 (8)	T4B (T4B)	T-0.330 I/I-0.000 I-0.106 C-0.531 CS-0.000
133C	12312509	Simpsonville	11.68	0.07 (0.09)	10 (10)	15 (15)	1 (1)	8 (8)	T4B (T4B)	T-0.270 I/I-0.000 I-0.693 C-0.347 CS-0.000
20C	12412102	Willisburg	5.00	0.03 (0.04)	10 (10)	15 (15)	1 (1)	8 (8)	T4B (T4B)	T-0.170 I/I-0.000 I-0.032 C-0.162 CS-0.000

NG - Not Given, proposed system with no adequate population or flow data.

*T - Treatment facility cost

I/I - Infiltration/Inflow correction cost

I - Interceptor cost

C - Collector cost

CS - Combined sewer cost

Exhibit 5.2t BASINWIDE NEEDS FOR 1980 AND 1995 (MUNICIPAL) - SALT RIVER BASIN (CONT'D)

Construction Grant Priority	Code Number	Facility	Non-Conservative Wasteload Allocation lb/day TOD	Compliance Goals 1980(1995)					Treatment Needs 1980 (1995)	Costs* Million \$ 1980
				Flow mgd	BOD5 mg/l	SS mg/l	NH ₃ mg/l	DO mg/l		
9Ca	12512605	Bradfordsville	6.67	0.04 (0.06)	10 (10)	15 (15)	1 (1)	8 (8)	T4B (T4B)	T-0.200 I/I-0.000 I-0.080 C-0.200 CS-0.000
10A	12612204	Floydsburg	1.67	0.01 (0.02)	10 (10)	15 (15)	1 (1)	8 (8)	T4B (T4B)	T-0.090 I/I-0.000 I-0.018 C-0.045 CS-0.000

*T - Treatment facility cost
I/I - Infiltration/Inflow correction cost

I - Interceptor cost
5-7 C - Collector cost

CS - Combined sewer cost

Exhibit 5.3t BASINWIDE NEEDS FOR 1980 AND 1995 (DOMESTIC AND INDUSTRIAL) - SALT RIVER BASIN

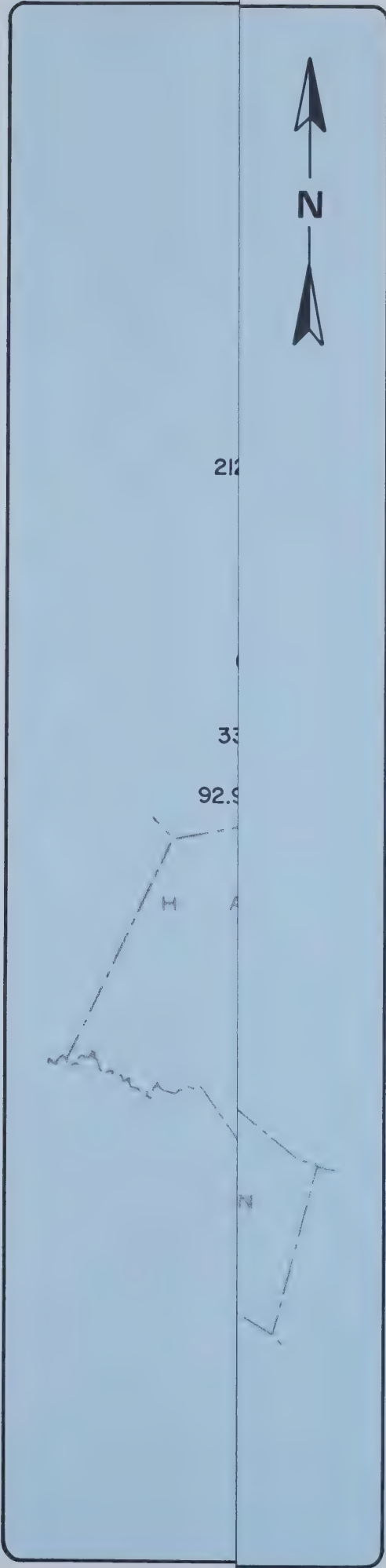
Segment Priority	Code Number	Facility	Non-Conservative Wasteload Allocation lb/day TOD	Compliance Goals 1980(1995)					Treatment Needs 1980 (1995)
				Flow mgd	BOD5 mg/l	SS mg/l	NH ₃ mg/l	DO mg/l	
2236.0	20112402	Leemont Acres Subd.	0	0	0	0	0	0	To West Co. STP
2236.0	20212402	Elysianfields Subd.	0	0	0	0	0	0	To West Co. STP
2236.0	20312402	Tarrytown Subd.	0	0	0	0	0	0	To West Co. STP
2236.0	20412402	Prairie Village Subd.	0	0	0	0	0	0	To West Co. STP
2236.0	20512402	Hidden Valley Subd.	0	0	0	0	0	0	To West Co. STP
2236.0	20612402	Windsor Forest Subd.	0	0	0	0	0	0	To West Co. STP
2236.0	20712402	Brookfield MHP	8.34	0.05 (0)	10 (0)	15 (0)	1 (0)	8 (0)	T4B (To West Co. STP)
2236.0	20812402	Fairdale Elem.	0	0	0		0	0	To West Co. STP
2236.0	20912402	Candlelight Subd.	56.71	0.34 (0)	10 (0)	15 (0)	1 (0)	8 (0)	T4B (To West Co. STP)
2236.0	21012402	Confederate Acres Subd.	21.68	0.13 (0)	10 (0)	15 (0)	1 (0)	8 (0)	T4B (To West Co. STP)
2236.0	21112402	Yorktown Subd.	25.02	0.15 (0)	10 (0)	15 (0)	1 (0)	8 (0)	T4B (To West Co. STP)
2236.0	21412402	Sunshine-Sungold Subd.	75.06	0.45 (0)	10 (0)	15 (0)	1 (0)	8 (0)	T4B (To West Co. STP)
2236.0	21512402	Whispering Hills Subd.	53.38	0.32 (0)	10 (0)	15 (0)	1 (0)	8 (0)	T4B (To West Co. STP)
2236.0	21612402	Marion C. Moore H.S.	8.34	0.05 (0)	10 (0)	15 (0)	1 (0)	8 (0)	T4B (To West Co. STP)
2236.0	21712402	Shallow Creek Subd.	16.68	0.10 (0)	10 (0)	15 (0)	1 (0)	8 (0)	T4B (To West Co. STP)
2236.0	21812402	Cedar Creek Subd.	21.68	0.13 (0)	10 (0)	15 (0)	1 (0)	8 (0)	T4B (To West Co. STP)
2236.0	22012402	Wildwood Apt.	16.68	0.10 (0)	10 (0)	15 (0)	1 (0)	8 (0)	T4B (To West Co. STP)
2236.0	22112402	Fern Hill Subd.	33.36	0.20 (0)	10 (0)	15 (0)	1 (0)	8 (0)	T4B (To West Co. STP)
2236.0	22212402	Spring Lake Farm Subd.	133.44	0.80 (0)	10 (0)	15 (0)	1 (0)	8 (0)	T4B (To West Co. STP)
2236.0	22312402	Hill Ridge Subd.	21.68	0.13 (0)	10 (0)	15 (0)	1 (0)	8 (0)	T4B (To West Co. STP)
2236.0	22412402	Nottingham Hills Subd.	10.00	0.06 (0)	10 (0)	15 (0)	1 (0)	8 (0)	T4B (To West Co. STP)
2236.0	22512402	Henry Watterson Estates	133.44	0.80 (0)	10 (0)	15 (0)	1 (0)	8 (0)	T4B (To West Co. STP)
2236.0	22612402	Southland MHP	10.00	0.06 (0)	10 (0)	15 (0)	1 (0)	8 (0)	T4B (To West Co. STP)
2236.0	22712402	Westminister MHP	16.68	0.10 (0)	10 (0)	15 (0)	1 (0)	8 (0)	T4B (To West Co. STP)

Exhibit 5.3t BASINWIDE NEEDS FOR 1980 AND 1995 (DOMESTIC AND INDUSTRIAL) - SALT RIVER BASIN (CONT'D)

Segment Priority	Code Number	Facility	Non-Conservative Wasteload Allocation lb/day TOD	Compliance Goals 1980(1995)					Treatment Needs 1980 (1995)
				Flow mgd	BOD5 mg/l	SS mg/l	NH ₃ mg/l	DO mg/l	
2236.0	23012402	Cinderella Estates	150.12	0.90 (0)	10 (0)	15 (0)	1 (0)	8 (0)	T4B (To West Co. STP)
2236.0	23112402	Treasure Island Sewer District	56.71	0.34 (0)	10 (0)	15 (0)	1 (0)	8 (0)	T4B (To West Co. STP)
2236.0	23412402	Charleswood Subd.	13.34	0.08 (0)	10 (0)	15 (0)	1 (0)	8 (0)	T4B (To West Co. STP)
2236.0	23512402	Glengarry Subd.	16.68	(0)	10 (0)	15 (0)	1 (0)	8 (0)	T4B (To West Co. STP)
2236.0	23612402	Tin-Dor Estates Subd.	13.34	0.08 (0)	10 (0)	15 (0)	1 (0)	8 (0)	T4B (To West Co. STP)
2236.0	26512402	Pinecrest MHP	15.01	0.09 (0)	10 (0)	15 (0)	1 (0)	8 (0)	T4B (To West Co. STP)
2236.0	26712402	Glencoe Subd.	13.34	0.08 (0)	10 (0)	15 (0)	1 (0)	8 (0)	T4B (To West Co. STP)
2236.0	26812402	Friendly Hills East Subd.	8.34	0.05 (0)	10 (0)	15 (0)	1 (0)	8 (0)	T4B (To West Co. STP)
2236.0	23712402	Holly Villa Subd	10.00	0.06 (0)	10 (0)	15 (0)	1 (0)	8 (0)	T4B (To West Co. STP)
227.0	23812302	Airview Estates	91.74	0.55 0.55	10 (10)	15 (15)	1 (1)	8 (8)	T4B (T4B)
29.9	24012603	Abbey of Gethsemane	16.68	0.10 1.10	10 (10)	15 (15)	1 (1)	8 (8)	T4B (T4B)
915.1	24212201	Blue Lick Sewer Corp.	25.02	0.15 (0)	10 (0)	15 (0)	1 (0)	8 (0)	T4B (To West Co. STP)
915.1	24312201	Maryville Subd. #4	40.03	0.24 0.30	10 (10)	15 (15)	1 (1)	8 (8)	T4B (T4B)
915.1	24412201	Maryville Subd. #2 & #3	78.40	0.47 0.55	10 (10)	15 (15)	1 (1)	8 (8)	T4B (T4B)
915.1	24512201	Wheel Estates	8.34	0.05 0.08	10 (10)	15 (15)	1 (1)	8 (8)	T4B (T4B)
915.1	24612201	Preston MHP	91.74	0.55 (0)	10 (0)	15 (0)	1 (0)	8 (0)	T4B (To West Co. STP)
915.1	24712201	Maryville Subd. #1	38.36	0.23 (0.40)	10 (10)	15 (0)	1 (1)	8 (8)	T4B (T4B)
915.1	24812201	Bullitt Hill Subd.	16.68	0.10 0.28	10 (10)	15 (0)	1 (1)	8 (8)	T4B (T4B)
915.1	24912201	Largrove Subd.	20.02	0.12 (0)	10 (0)	15 (0)	1 (0)	8 (0)	T4B (To West Co. STP)
915.1	25012201	McNeely Lake Subd.	41.70	0.25 (0)	10 (0)	15 (0)	1 (0)	8 (0)	T4B (To West Co. STP)
915.1	25112201	Maple Grove Subd. #5	18.35	0.11 (0)	10 (0)	15 (0)	1 (0)	8 (0)	T4B (To West Co. STP)
915.1	25212201	Pleasant Valley Subd. #2	28.36	0.17 (0)	10 (0)	15 (0)	1 (0)	8 (0)	T4B (To West Co. STP)

Exhibit 5.3t BASINWIDE NEEDS FOR 1980 AND 1995 (DOMESTIC AND INDUSTRIAL) - SALT RIVER BASIN (CONT'D)

Segment Priority	Code Number	Facility	Non-Conservative Wasteload Allocation lb/day TOD	Compliance Goals 1980(1995)					Treatment Needs 1980 (1995)
				Flow mgd	BOD ₅ mg/l	SS mg/l	NH ₃ mg/l	DO mg/l	
915.1	25312201	Zelma Fields Subd.	21.68	0.13 (0)	10 (0)	15 (0)	1 (0)	8 (0)	T4B (To West Co. STP)
915.1	25412201	Pleasant Valley Subd. #1	46.70	0.28 (0)	10 (0)	15 (0)	1 (0)	8 (0)	T4B (To West Co. STP)
915.1	25512201	Farmgate Subd.	10.00	0.06 (0)	10 (0)	15 (0)	1 (0)	8 (0)	T4B (To West Co. STP)
915.1	25612201	Cedar Lake Subd.	8.34	0.05 (0)	10 (0)	15 (0)	1 (0)	8 (0)	T4B (To West Co. STP)
915.1	25712201	Birchwood Subd.	8.34	0.05 (0)	10 (0)	15 (0)	1 (0)	8 (0)	T4B (To West Co. STP)
915.1	25812201	Idlewild Subd.	123.43	0.74 (0)	10 (0)	15 (0)	1 (0)	8 (0)	T4B (To West Co. STP)
467.3	25912202	Chenoweth Hills Subd.	41.70	0.25 (0)	10 (0)	15 (0)	1 (0)	8 (0)	T4B (To West Co. STP)
296.2	26112203	Cross Creek Subd.	25.02	0.15 (0)	10 (0)	15 (0)	1 (0)	8 (0)	T4B (To West Co. STP)
296.2	26212203	Starview Estates Subd.	20.02	0.12 0.12	10 (10)	15 (15)	1 (1)	8 (8)	T4B (To West Co. STP)
296.2	26312203	Ash Avenue Sewer District	55.04	0.33 0.45	10 (10)	15 (15)	1 (1)	8 (8)	T4B (T4B)
296.2	26412203	Kv. State Reformatory	13.34	0.08 0.08	10 (10)	15 (15)	1 (1)	8 (8)	T4B (T4B)
2236.0	26612402	Liquid Transport Co.	16.68	0.10 (0)	10 (0)	15 (0)	1 (0)	8 (0)	T4B (To West Co. STP)
2236.0	26912402	Vulcan Metals	150.12	0.90 (0)	10 (0)	15 (0)	1 (0)	8 (0)	T4B (To West Co. STP)
639.2	27112101	Heaven Hill Distillery	25.02	0.15 (0.15)	10 (10)	15 (15)	1 (1)	8 (8)	T4B (T4B)
639.2	27012101	Barton Distillery	33.36	0.20 (0.20)	10 (10)	15 (15)	1 (1)	8 (8)	T4B (T4B)
92.9	23912602	J.B. Beam Distillery	20.02	0.12 (0.12)	10 (10)	15 (15)	1 (1)	8 (8)	T4B (T4B)
4.8	27212505	Joseph E. Seagram Distillery (N)	16.68	0.10 (0.10)	10 (10)	15 (15)	1 (1)	8 (8)	T4B (T4B)
126.4	26512515	Joseph E. Seagram Distillery (A)	30.02	0.18 (0.18)	10 (10)	15 (15)	1 (1)	8 (8)	T4B (T4B)
253.0	27312517	Hall Mack Co.	40.03	0.24 (0.24)	10 (10)	15 (15)	1 (1)	8 (8)	T4B (T4B)



SALT RIVER BASIN



EXHIBIT 5.4m

BASINWIDE MANAGEMENT PLAN

LEGEND

- 4.8/24** — Priority No.
— Rank No.
-  High Priority
 Medium Priority
 Low Priority



SCALE IN MILES

KENTUCKY WATER QUALITY MANAGEMENT PLAN

Prepared for Division of Water Quality

KENTUCKY DEPARTMENT FOR NATURAL RESOURCES
AND ENVIRONMENTAL PROTECTION

SCHIMPELER•CORRADINO ASSOCIATES
engineering & planning consultants
1429 S. Third Street
Louisville, Kentucky 40208
502/636-3555





SALT RIVER BASIN

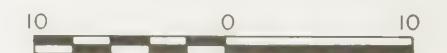


EXHIBIT 5.4m

BASINWIDE MANAGEMENT PLAN

LEGEND

- 4.8/24 — Priority No.
Rank No.
- High Priority
Medium Priority
Low Priority



SCALE IN MILES

KENTUCKY WATER QUALITY MANAGEMENT PLAN

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KENTUCKY DEPARTMENT FOR NATURAL RESOURCES
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Louisville, Kentucky 40208
502/636-3555



A Kentucky Water Quality Monitoring Strategy Study Team comprised of representatives from the Kentucky Geological Survey, U.S. Geological Survey, Kentucky Department of Fish and Wildlife, U.S. Soil Conservation Service, U.S. Environmental Protection Agency, U.S. Army Corps of Engineers, Kentucky Department for Human Resources, Kentucky Office for Local Government, and the Kentucky Department for Natural Resources and Environmental Protection was formed to assist in establishment of a water quality monitoring program for Kentucky. Consulting engineers performing river basin plans submitted recommended monitoring station locations to the study team in September and October of 1974. The purpose of the study team was outlined as follows:

KENTUCKY WATER QUALITY MONITORING
STRATEGY STUDY TEAM

Purpose for monitoring the "Waters of the Commonwealth"

- I. To provide data relevant to the economy and security of the Commonwealth and Nation.
- II. To provide data for planning and management of the "Waters of the Commonwealth."
- III. To provide data to define the quantity of water which interrelates appropriate factors.
 - A. precipitation
 - B. climatological (example: evaporation) and transpiration
 - C. stream flow
 - D. reservoir effect
 - E. soils; moisture, type, area, depth
- IV. To provide data on water quality and compliance with water quality standards.
 - A. physical
 - B. chemical
 - C. biological
 - D. trace elements
- V. To assess water quantity and quality data in relation to uses.
 - A. fish and aquatic life
 1. population
 2. density
 3. diversity
 - B. recreation
 - C. public water supply
 - D. industrial water supply
 - E. agricultural water supply
 - F. navigation
- VI. To provide sedimentation data for evaluation of resources.
 - A. stream land
 - B. reservoir sediment deposition
 - C. channel stability
 - D. erosion of soils
- VII. To provide data on groundwater to quantity and quality.
 - A. for withdrawal and use
 - B. for determination of influence on surface waters.

secondary monitoring stations, sampling frequencies for measured water quality parameters, and estimated costs for monitoring stations.

Primary stations are defined as stations which comprise the main network and are located to provide a water quality profile of the waters of the state and each river basin. A primary station is located at a gaging station or a point where the flow or volume of water analyzed can be quantified. A primary station is a complete chemical and bacteriological monitoring station and robot (automatic) monitoring will be used with some primary stations according to need, funding, and feasibility. The water quality parameters and frequency of measurement for primary monitoring stations are given as follows:

PRIMARY STATION PARAMETERS AND FREQUENCIES

<u>Automatic Monitor</u>	<u>Frequency</u>
Temperature	Hourly
Dissolved Oxygen	Hourly
Conductivity	Hourly
pH	Hourly
Acidity	Weekly
Alkalinity	Weekly
BOD ₅	Monthly
COD	Monthly
Chloride	Weekly
Cyanide	Weekly
Fluoride	Weekly
Total Hardness	Weekly
Magnesium	Weekly
MBAS	Weekly
NH ₃ -N	Weekly
NO ₃ -N	Weekly
TKN	Weekly
pH (unless automatic)	Weekly
Phenolics	Weekly
Phosphorus, Total Dis.	Weekly
Total Phosphorus-P	Weekly
Potassium	Weekly
Solids, Dissolved	Weekly
Solids, Suspended	Weekly
Sulfate	Weekly
Sulfide	Weekly
Sodium	Weekly
Turbidity	Weekly
Silica	Weekly
TOC	Weekly
Arsenic	Quarterly
Barium	Monthly
Cadmium	Monthly
Chromium, Total	Monthly
Chromium, Hex	As Needed
Copper	Monthly
Iron	Monthly
Lead	Monthly
Manganese	Monthly
Mercury	Monthly
Nickel	Monthly
Selenium	Quarterly
Silver	Monthly
Zinc	Monthly
<u>Radio Chemical</u>	As Needed
<u>Pesticides</u>	As Needed
<u>Bacterial</u>	
Coliform, Fecal	Monthly
Coliform, Total	Weekly

After numerous meetings and detailed study of existing and recommended water quality monitoring requirements, the study team recommended a statewide water quality monitoring network in February of 1975. The recommended network consisted of primary and

<u>Parameter</u>	<u>Frequency</u>
<u>Biological</u>	As Needed
<u>Sedimentation</u>	
Particle size distribution	As needed

The estimated cost for primary stations for the major categories outlined above is as follows:

<u>Primary Station Item</u>	<u>Cost (1974 Dollars)</u>
Automatic Monitor	\$200.00
Data Reduction (Automatic)	150.00
Chemical Analysis	546.51
Trace Elements	100.21
Radio Chemical	100.00
Pesticides	145.00
Bacterial	80.00
Sedimentation	100.00
Data Reduction (Manual)	10.00
Sample Collection	100.00
TOTAL	\$1,531.72

Secondary stations are defined as stations designated to supplement the needs of the primary networks, and the needs of individual agencies. The parameters and their frequency will be determined by need subject to approval of the study team. An existing station which has data for five or more years at a location (flow or chemical data) can also be designated as a secondary network station.

Five primary stations designated for the Salt River Basin are as follows:

<u>Number</u>	<u>Primary Station Location</u>
068	Pond Creek, near Louisville
069	Mill Creek, Army Road
070	Salt River, Shepherdsville
071	Rolling Fork, Lebanon Junction
072	Floyds Fork, near Gap in Knob

EPA has also designated three additional stations as "Critical Monitoring Station Sites" at (1) Mill Creek below Fort Knox, (2) Pond Creek at Kentucky 44, and (3) Floyds Fork below Jefferson-town. The consultant for the Salt River Basin also recommends that secondary station sites be considered at the following locations:

Beech Fork, U.S. 62 below Bardstown
 Clear Creek below Shelbyville
 Salt River below Lawrenceburg
 Cartwright Creek, Frederictown
 Hardins Creek, near Mouth
 Floyds Fork, near State Prison.

RELATIONSHIP WITH OTHER PLANS

Introduction

Section 303(e) basin plans provide for development of comprehensive basinwide pollution abatement strategies. These plans establish the framework within which related pollution control programs must function.

Integration and coordination of related plans and programs are critical elements in the development

of sound basin plans. Of primary importance are the following:

- Local and regional land use plans, programs
- Section 201 Facilities Plans
- Section 208 Area-wide Plans
- Corps of Engineers Water Resource Projects
- Soil Conservation Service Watershed Projects

Exhibit 5.5m identifies related plans and projects in the basin except for the land use plans which are presented in Chapter III.

Land Use Plans

Local and regional land use plans provide a basis for application of land use controls that attempt to insure efficient and orderly growth within an area. Local and regional land use plans generally are restricted by municipal, county, or regional boundaries. Thus, when utilizing these plans in the development of basin plans, the boundary constraints must be recognized and considered.

Present and future land use plans and programs for areas within the basin have been discussed and summarized in Chapter III. Land use policies and controls are discussed in the next section of this chapter.

Section 201 Facilities Plans

Section 201 municipal facilities plans provide for the orderly and cost-effective development of municipal wastewater collection and treatment facilities. Facilities planning areas generally encompass geographical areas sufficient to permit unrestricted analysis of wastewater treatment and disposal alternatives and possibilities for cost savings, other management advantages, or environmental gains resulting from interconnection of individual waste treatment or collective management of such systems.

Section 201 planning efforts in the basin include the following:

<u>Municipality</u>	<u>Step 1 Status</u>
Bardstown	Study Initiated
New Haven	Study Initiated
Lebanon	Study Initiated
Bradfordsville	Study Initiated
Springfield	Study Initiated
Perryville	Area Designated
Floydsburg	Area Designated
Louisville	Study Completed
Lebanon Junction	Study Initiated
Shepherdsville	Study Initiated
Mount Washington	Area Designated
Bloomfield	Area Designated
Taylorsville	Area Designated
Eminence	Area Designated
Shelbyville	Study Initiated
Simpsonville	Area Designated
Lawrenceburg	Study Initiated
Harrodsburg	Study Initiated.

All the above 201 facilities plans with the exception of the Louisville Study, are in the early stages of development and thus were of limited value in the basin planning effort. The Louisville 201 study, on the other hand, is substantially complete and thus provided considerable assistance in development of the Basin Plan. Implementation of

SALT RIVER BASIN



EXHIBIT 5.5m

RELATIONSHIP TO OTHER PLANS

LEGEND



201 Area



208 Area



Army Corps of
Engineers
(completed)



Army Corps of
Engineers
(under const.)



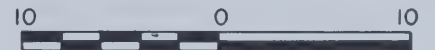
Army Corps of
Engineers
(authorized)



Watershed Project
(completed)



Watershed Project
(under const.)



SCALE IN MILES

KENTUCKY WATER QUALITY MANAGEMENT PLAN

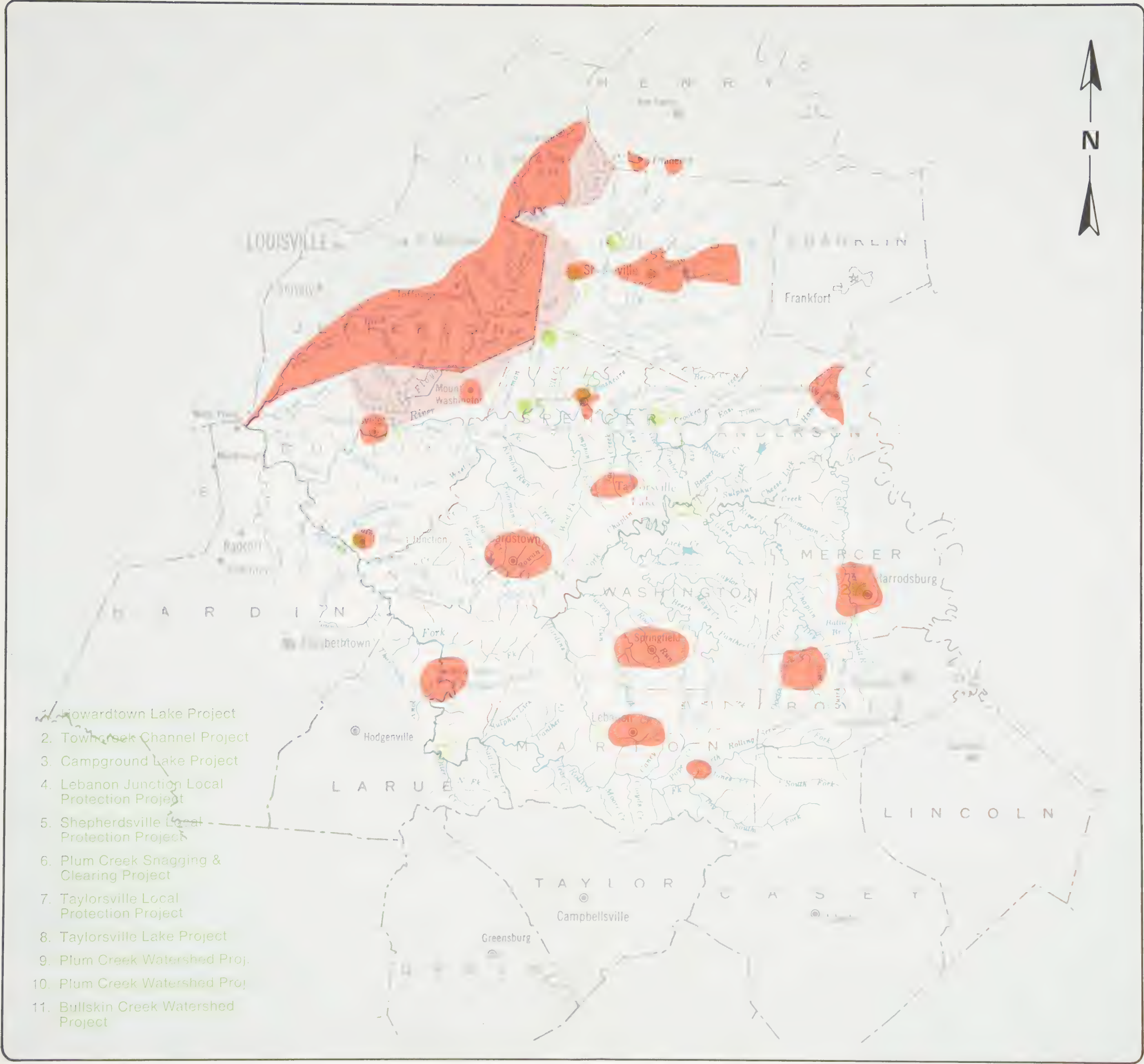
Prepared for Division of Water Quality

KENTUCKY DEPARTMENT FOR NATURAL RESOURCES
AND ENVIRONMENTAL PROTECTION

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1. Howardtown Land Use Plan
2. Towh Creek Channelization Project
3. Campground Land Use Plan
4. Lebanon Junction Land Use Protection Project
5. Shepherdsville Land Use Protection Project
6. Plum Creek Stream Bank Clearing Project
7. Taylorsville Local Land Use Protection Project
8. Taylorsville Land Use Plan
9. Plum Creek Watershed Project
10. Plum Creek Watershed Project
11. Bullskin Creek Watershed Project



SALT RIVER BASIN



EXHIBIT 5.5m

RELATIONSHIP TO OTHER PLANS

LEGEND

- 201 Area
- 208 Area
- Army Corps of Engineers (completed)
- Army Corps of Engineers (under const.)
- Army Corps of Engineers (authorized)
- Watershed Project (completed)
- Watershed Project (under const.)



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Pond Creek and Floyds Fork portions of the Louisville 201 Facilities Plan will eliminate nearly all the existing Jefferson County wastewater sources in the basins by 1995. The portion of the Louisville 201 Facilities Plan which lies in the Salt River Basin should be under construction by 1975-1980. The wastewaters generated in the Pond Creek and Floyds Fork watersheds of Jefferson County will be routed to the West County Sewage Treatment Plant and discharged to the Ohio River.

Section 208 areawide waste management plans provide for the development and operation of integrated water pollution control programs by areawide agencies. Areawide waste management generally encompasses complex urban industrial areas presently confronted by substantial water pollution problems.

The Kentucky portion of the Louisville Metropolitan Area has been designated as a Section 208 areawide water quality management study area. As illustrated in Exhibit 5.5m, the present 208 study area includes Jefferson County, Oldham County, and portions (those portions which lie in the Floyds Fork and Harrods Creek watersheds) of Henry, Shelby, Bullitt, and Spencer Counties. The Kentuckiana Regional Planning and Development Agency (KIPDA) has been designated as the agency responsible for the 208 planning in the Louisville area. KIPDA is presently preparing a 208 work program and expects the 208 study to be initiated early in July, 1975.

Corps of Engineers Water Resource Programs

The Corps of Engineers of the Department of Army, Department of Defense, manages a comprehensive program of water resources development in rivers and harbors over which the federal government has jurisdiction. The program undertaken includes navigation improvements (channels and canals), provision for water supply and flood control (reservoirs and dams), elimination of flood hazards (dikes and levees), hydroelectric power, and recreation development of waters. The Secretary of the Army, through the Chief of Engineers, issues permits for other works which affect navigable waters subject to the review of the Administrator of the Environmental Protection Agency.

The Corps of Engineers has recently undertaken a series of water resource management studies for major metropolitan areas. The objectives of these studies have been defined as follows:

- Identification and evaluation of methods and systems to insure the protection and improvement of both surface and groundwater quality within the area.
- Utilization of a regional approach to water supply needs and sources.
- Production of an array of alternative systems for each identified water-related urban problem in the area.
- Production of a regional wastewater management study in response to the requirements and intent of PL 92-500 (treatment methods, effluent and sludge disposal, and urban and agricultural runoff).
- Presentation to state and local governments of realistic survey scope plans and cost

data for ultimate decision-making. Recreational, environmental, and institutional evaluations for the plans developed will also be furnished.

Although the Corps has initiated these studies in the Lexington and Ashland areas, no urban studies have been authorized for any area of the Salt River Basin; however, the Louisville Area has in the past been under consideration for authorization.

The Corps of Engineers projects in the basin which are completed, under construction, and authorized or under consideration are identified in Exhibit 5.5m and include the following:

Completed

Taylorsville Local Protection Project
Plum Creek Watershed Project
Plum Creek Snagging and Clearing Project
Town Creek Channel Project
Lebanon Junction Local Protection Project

Under Construction

Taylorsville Lake Project

Authorized or Under Consideration

Howardsville Lake Project
Shepherdsville Local Protection Project
Camp Ground Lake Project

Soil Conservation Service Watershed Projects

The Soil Conservation Service of the Department of Agriculture is responsible for developing and executing a national soil and water conservation program in cooperation with federal, state, and local agencies; community planning and regional resource agencies; and individual soil users. In addition to furnishing technical and informational assistance to individuals and groups concerning the development, application, and management of sound soil and water conservation plans and measures, the Soil Conservation Service provides technical and financial aid in planning, designing, and installing watershed improvement works.

SCS projects in the basin which are completed or under consideration are identified in Exhibit 5.5m and include the following:

Completed

Plum Creek Watershed Project

Under Consideration

Bullskin Creek Watershed Project

Conclusion

The 303(e) basin planning effort is a continuing planning effort which is the backbone of the water pollution control program providing the framework constraints within which the 201, 208, and NPDES programs will be required to function. In addition, water resource planning by the Corps of Engineers and the Soil Conservation Service as well as other water and related land management efforts will have to be aware of and consistent with basin planning efforts throughout the planning and implementation

stages. Conversely, the continuing planning process developed throughout the basin planning effort will have to maintain sufficient flexibility to permit the successful development and implementation of the many water and land management programs directly and indirectly influenced by the basin planning program.

LAND USE POLICIES AND CONTROLS

The ways in which we utilize or conserve our land resources has significant impacts on water quality. Community growth in some areas follows carefully planned programmed and staged infrastructure (development) while in many more areas, growth takes place in an uncoordinated manner with development taking place completely irrespective of the community's ability to provide basic public services such as water and sewers.

The Present Situation

Land use planning which has been undertaken in the past in the United States has been carried out chiefly by local governments. Authorization for local units of government to prepare and administer land use plans has been in the form of state enabling legislation.

Cities were compact, undeveloped land was abundant, and the environmental and social consequences of development were not of major concern. Land was viewed as a commodity, and zoning and other regulatory measures were tools utilized chiefly for the purpose of protecting property values.

However, times and conditions have changed, yet we are still utilizing in many communities statutes and ordinances designed for an earlier period. This is the opposite of incentive zoning which encourages desirable development to take place in proper locations.

Planning tools which are currently available to cities and counties in Kentucky under KRS 100 include: (1) comprehensive plans containing a statement of goals and objectives and principles, policies and standards to serve as a guide for the physical development and economic and social well-being of the planning unit, together with plans for land use, transportation and community facilities. A comprehensive plan may include any additional elements such as community renewal, housing, flood control, pollution, conservation, natural resources, and other programs which in the judgment of the planning commission will further serve the purposes of the comprehensive plan; (2) zoning regulations; (3) subdivision regulations; (4) an official map; and (5) a capital improvement program and budget.

Planning activities funded through the 701 program during its first ten to fifteen years of existence were almost exclusively concerned with physical planning including inventories of land use and other existing conditions, population and economic base analysis, plans for land use, community facilities, circulation and recreation, preparation of zoning ordinances, subdivision regulations and capital improvement programs. Unfortunately, many of these comprehensive plans have major deficiencies in terms of present day environmental demands. For example, most of Kentucky's community comprehensive plans did not inventory the capability or the suitability of

the natural environment to accommodate various levels and kinds of development and only a small number are backed up by important implementation tools such as the capital improvement program or capital improvement budget. The result, therefore, has been the production, in many instances, of less than adequate planning guides when gauged against today's mandates for sound land use planning and development within a carrying capacity context.

Kentucky was one of the first states to institute substate regionalism with the creation of fifteen Area Development Districts (ADDs), all of which rely heavily upon the 701 program for funding. The avowed functions of Kentucky's Area Development Districts are to:

- Provide needed technical assistance to local governments;
- Coordinate state and federal efforts to assist communities;
- Review and coordinate local development proposals; and
- Conduct the necessary research and studies and coordinate and cooperate with all appropriate groups and agencies in order to develop, and adopt and revise, when necessary, a district development plan or series of plans, including, but not limited to, the following districtwide plan elements: goals and objectives; water and sewer; land use; and open space and recreation. Such plans shall serve as a general guide for public and private actions and decision to assure the development of public and private property in the most appropriate relationships.⁴

With regard to land use planning, it is believed that the following accurately reflects the current situation with Kentucky's ADDs.

With a few widely scattered exceptions, substate regionalism has not produced a viable approach to land use planning. The areawide planning bodies are usually entirely advisory agencies, with no direct tie to any level of government which has executive or legislative functions. Neither local nor state governments have felt it necessary to follow, or even to receive the advice of an amorphous group not responsible to them, and to which they are not directly responsible, and which has a territorial "jurisdiction" which does not coincide with that of any elected official.

This situation typically forces areawide agencies to devote their efforts almost entirely to the preparation of plans, and to play little or no role in plan implementation.⁵

⁴A Guide for Multicounty Planning and Development, Kentucky Program Development Office, October, 1970; Kentucky Revised Statutes 147A.090.

⁵Land Use Policy and Program Analysis Number 1: Intergovernmental Relations in State Land Use Planning, The Council of State Governments, September, 1974.

The major deficiency with regional planning agencies in their lack of legislative authority to implement plans. However, few if any regional agencies or states have taken the necessary action, that being the creation of areawide governments, to implement areawide plans.

One of the fundamental issues which must be resolved in any effort to improve land use planning in not only Kentucky but also throughout the United States is the heavy reliance of local governments on property taxes for a major share of their tax revenues. With the current situation, property taxes play a significant role in almost every land use decision made at the local level. So long as the property tax provides the major share of operating revenues for local governments, land use decisions will in all likelihood continue to be made on the basis of economic consideration rather than land capability.

Possible alternatives to the local property tax which have been offered by knowledgeable persons include:

1. Broadening the base of local and state taxation through greater use of personal income and general sales taxes;
2. Creation of areawide tax justifications;
3. Expansion of federal and implementation of state revenue sharing;
4. Use of alternative revenue sources such as user charges.⁶

The Federal Role

The federal government provides extensive assistance to states and local governments and other agencies and organizations in the form of grants, loans, guarantees, and technical assistance programs, many of which relate and impact upon the way in which land is developed and used.

The large number of assistance programs, the wide and diverse activities which they support, and the number of federal, state, and local agencies involved in their administration presents an extremely difficult task in attempting to formulate and administer comprehensive land use planning programs at the state and local level. Further, federal economic development policies and programs are sometimes in conflict with environmental policies and programs which in turn reflects the lack of an adopted set of comprehensive national goals and policies.

Although there is not on record a coordinated comprehensive set of national goals and policies, increasing emphasis has been placed in recent years on environmental consequences of federal actions. With the enactment of the National Environmental Policy Act of 1969, all federal and federally related actions having possible major effects on the environment are to be undertaken only after the preparation and filing of an Environmental Impact Statement. The Act affects all levels of the federal government as well as other activities which may be financed or connected with the expenditure of federal funds.

⁶Ibid, p. 28.

The National Environmental Policy Act also provides for the establishment of a National Council on Environmental Quality (CEQ). CEQ is responsible for formulating Impact Statement Guidelines and reviewing and commenting on Impact Statements. However, CEQ has no authority to approve or disapprove Impact Statements or to order the cessation of project activity. CEQ may only rule on the adequacy of an Impact Statement. Only the President can order a halt to construction.

Sixteen states have taken similar action and require the preparation and filing of impact statements for nonfederal developments. However, Kentucky has not taken such action. Requirements for environmental impact statements generally include an analysis of the adverse and beneficial effects of the proposed development on people, animals, fish, and vegetation in the area. Impact statements generally require suggestions for ways to avoid or minimize adverse environmental effects and indicate alternatives to the proposed action.

In recent years, Congress has spent considerable time in debating proposed federal land use legislation, and, while a federal land use bill has yet to pass both houses of Congress, it is likely that before too long a land use bill will be placed on the statute books.

The land use bill which has come closest to passage called for land use decisions to be made on the basis of impact. Purely local decisions which affect only the local community would continue to be made by local public officials and local citizens. The American Law Institute estimates that nearly ninety percent of land use decisions are of purely local impact and significance leaving only ten percent to regional, state, and federal review.

In the various land use bills which have been considered by Congress, the following provisions are generally included:

1. Designation of a state planning agency with planning staff and authority to compile a data base for planning, develop a land use planning program and coordinate its activities with local, state, and federal planning and pollution control agencies.
2. Inventories of land and natural resources including projections of land needed and suitable for development to meet economic and social needs.
3. Development of methodologies to control use and development of land of more than local significance due to its size, environmental impact, or potential to induce growth.

Five critical areas and use are general designated for control in most of the proposed land use bills:

1. Areas of critical environmental concern, including historical or ecologically fragile lands, land subject to flooding and other natural disasters, and regionally significant agricultural and watershed lands;

2. Key facilities including those public facilities which tend to induce development or urbanization of more than local impact including airports, highway interchanges, recreational areas, and energy facilities;
3. Development of public facilities or utilities of regional benefit--including development of methods to assure that local regulations do not arbitrarily or capriciously exclude development of public facilities, housing, or utilities of regional benefit.
4. Large-scale development--private development such as shopping centers, large subdivisions, or apartment complexes which have the potential of creating environmental problems or generating additional development.
5. Land sales and development projects--large-scale development more than ten miles from a planning unit, second homes, vacation resorts, and rural subdivisions.

The State Role

Many feel that states, with their existing powers and financing capabilities, are best suited for implementing comprehensive land use planning. A number of states have already initiated state level land use controls of a comprehensive nature, with two systems of controls generally employed. One involves state establishment of guidelines for and administrative review of local land use planning, zoning, and regulatory controls (Florida and Oregon). A second approach involves direct state planning and control (Hawaii, Vermont, and Maine).

At the state level in Kentucky, neither comprehensive quality-of-life nor economic, social, or related goals which include consideration of population densities, population distribution, development types or other general measures of carrying capacity have been developed to guide state actions. An Economic Development Commission and an Environmental Quality Commission have been established but each are apparently pursuing their separate courses with little or no interface to insure compatibility among goals and purposes.

However, the Kentucky Environmental Economic Development Policy Project, a group appointed by the Legislative Research Commission and partially financed by the National Science Foundation, has recently suggested the establishment of a Kentucky Enviro-Economic Council. The council to be appointed by the Governor, would seek ways to resolve conflicts between economic development and environmental protection and would be composed of representatives of business and industry, conservation, education, local and state government, labor, and agriculture.

At the present time, Kentucky has not enacted statewide land use planning. However, largely in anticipation of adoption of a National Land Use Planning Bill, the 1974 Kentucky General Assembly enacted a new section of KRS 147 which recognized the need for statewide land use planning:

...in order to protect the natural resources and environment of the Commonwealth, and to insure a water management system that will prevent, and reverse whenever necessary, the deterioration of water quality and provide optimum utilization of our limited water resources, and to facilitate orderly and well planned development and to protect the health, welfare, safety, and quality of life of the residents of Kentucky, it is necessary to adequately plan for and guide growth and development within the Commonwealth. In order to accomplish these purposes, it is necessary that the Commonwealth of Kentucky establish land and water management policies to guide and coordinate state, interstate, and local decisions relating to growth and development, and that such state land and water management policies should, to the maximum possible extent, be implemented by local governments through processes for the guidance of growth and development, and that all the existing rights of private property be preserved in accord with the constitution of Kentucky and the United States.

The Act also established a Council for Land Use Planning composed of fifteen members appointed by the Governor and representing a balance of interests in the Commonwealth. The Council is to be the Kentucky agency to fulfill federal requirements for councils associated federal programs designed to provide support for state land use planning functions.

The Council is to prepare by November 1, 1975 a report of work undertaken by the Council, and any findings, conclusions, and recommendations including the structure of any state land use planning process, and methods for assuring the compatibility of any state land use planning legislation with National Land Use Planning Legislation. In addition, the report is to contain:

1. Such proposals for changes in legislation as are recommended by the Council;
2. Drafts of model development ordinances which will assist local governments in adopting development ordinances;
3. Analyses of and comments on other relevant state and national commissioned studies and reports, and reports of public and private agencies;
4. Review of and recommendations on the current status and effectiveness of local and regional planning agencies with regard to land and water management; and
5. Such other findings and recommendations as the Council chooses to make.

With the establishment of the Council for Use Planning, the opportunity exists for Kentucky to begin taking positive steps to insure that land use planning decisions remain within her borders. However, action must be forthcoming soon, otherwise the authority for land use planning will ascend to a higher level.

The Federal Water Pollution Control Act Amendments of 1972 contain many provisions which could place the federal government in a position of arbitrating land use decisions within local communities. However, if local and state governments begin to reassert their rights and responsibilities for wisely planning and guiding growth in their jurisdictional areas, it would seem that a far more satisfactory situation would exist. The monetary costs of regulating and directing land use decisions should be significantly less with local versus federal direction, and, most importantly, local communities are best able to understand their own unique problems and needs.

Local units of government in Kentucky at the present time have sufficient legislative authority to keep development patterns and timing in concert with water management capabilities. The problem is that few communities have taken the bold initiatives necessary to meet the current environmental challenges.

The major problem facing many communities experiencing growth pressures is how best to guide growth in keeping with the community's ability to provide public services and protect the environment, while at the same time respecting the rights of the individual landowner. At the heart of the problem is the taking issue--the determination of when compensation must be paid when one's property is regulated to insure community growth and protection of fragile elements of the environment within an area.

As reported in The Taking Issue, prepared by the Council on Environmental Quality, statutory standards are currently being used in Great Britain to determine when compensation should be paid. Apparently, this system has had success and has been favorably accepted by developers, environmentalists, and planning officials and is worthy of intensive study for applicability to situations in the United States.⁷

Additional techniques which are currently being advocated to achieve an equitable balance between the rights of property owners and the needs, abilities, and capabilities of the larger community and of the environment include:

1. density rights transfer, whereby owners of land zoned for low density would be compensated for the loss of their right to build by owners of high density districts who require additional development rights to build to the legal limit;
2. preferential tax assessment for agricultural land to lessen the pressure to convert agricultural land on the urban fringe to urban use; and
3. a system of compensable regulations proposed for the American Land Institute's Model Land Development Code.

In summary, both the state and local units of government need to take bold initiatives in examining innovative planning and growth management techniques so that equitable compromises can be established between the rights of property owners and the demands and needs of the larger community and the environment and to insure that the majority of land use decisions which are of only local concern, remain within the purview of the local community.

Within the Salt River Basin, communities which are experiencing growth pressures, such as in Jefferson County, Taylorsville, and others, should examine some of the activities taking place elsewhere in the country and begin shaping programs which will place them in a leadership role in not only managing community growth, but also firmly establishing their rights and responsibilities for local decisionmaking.

Kentucky has enacted strip mine legislation which is considered by many to be a model law. The Division of Reclamation within the Department for Natural Resources and Environmental Protection has been given responsibility for implementing these measures. The Division in turn has issued a number of regulations which detail strip mining standards and requirements, including SMB-Rg-G: "Backfilling, Grading, Reclamation and Method of Operation" which specifies such things as bench width, water impoundment standards, methods of reclamation and vegetative planting, and SMR-Rg-11: "Water Quality" which requires the construction and maintenance by the operator of collection basins, water retaining structures, diversion ditches, and silt dams. Implementation and enforcement of these regulations has been extremely uneven, resulting in water quality degradation in a number of areas in Kentucky.

At the present time, the Surface Mining Control and Reclamation Act of 1975, passed by both Houses of Congress, is under review by the President. Under the Act, an Office of Surface Mining Reclamation and Enforcement within the Interior Department to oversee a joint federal-state regulatory program. Primary permit issuance and enforcement responsibility would rest with the states. They would have eighteen months after enactment to submit a program within the bounds of federal guidelines and standards for Interior approval. If a state fails to submit an acceptable program, the federal government would establish and run a state's program.

Strip mine operators would be required to restore stripped lands to their original contour, protect topsoil, vegetative cover, and assure the integrity of groundwaters. A tax would be imposed on both strip and deep mined coal to establish a reclamation fund for restoration of abandoned and unreclaimed strip mines.

Additional State Statutes Affecting Land Use

Deferred Tax Law for Agricultural Land (KRS 132)

In 1969, the voters in the Commonwealth approved an amendment to the Constitution which provided for the assessment of agricultural and horticultural land according to its use for those purposes. Statutory provisions were enacted in 1970 to implement the constitutional provisions which provides that if a landowner adopts another land use, he must pay a

⁷ The Taking Issue, prepared for the Council on Environmental Quality by Fred Bosselman, David Callies and John Banta, 1973, p. 326.

monetary penalty in the form of a higher assessment and the deferred taxes, predating the land use change for those years.

As of this time, this method of deferred taxation has not been particularly effective in achieving its original land planning purpose of preserving open space at the fringes of Kentucky's growing cities. However, provisions for strengthening the statute to achieve its original intent are currently being developed by an interim committee of the legislature.

Power Plant Siting Law
(KRS 278.025)

In 1974, the Kentucky General Assembly enacted a new section of KRS 278 which requires that prior to the constructing of a facility for the generation of electricity to or for the public for compensation, a "certificate of environmental compatibility" must be obtained from the Public Service Commission.

Sanitation Districts
(KRS 220.030)

Sanitation Districts may be formed in any county or across county lines to prevent and correct the pollution of streams, to regulate the flow of streams for sanitary purposes, or to provide for the collection and disposal of sewage and other liquid wastes. Cities may be included in these Districts.

Soil Conservation Districts
(KRS 262.200)

Soil Conservation Districts may be formed to implement soil conservation practices at the local level. The areas of a District may cut across county lines and include cities or parts thereof.

Watershed Conservancy Districts
(KRS 262.700)

Watershed Conservancy Districts may be created as subdivisions of Soil Conservation Districts to develop and execute programs pertaining to water usage, flood prevention and control, sediment damage, and erosion control.

PUBLIC PARTICIPATION

INTRODUCTION

National objectives concerning water quality recognize the need for public participation in the formulation and evaluation of plans to meet the purposes and standards set forth in Federal legislation. Provisions for public participation define the need for a systematic approach whereby the general public and decisionmakers can assess the relative merits of achieving alternative levels of satisfaction relative to national objectives. The purpose of this chapter is to identify the legal requirements for public participation relative to water quality and pollution control planning. Following the defined legal requirement is a complete discussion and documentation of the public participation process incorporated in the development of the river basin plan contained in this document. This process included three levels of participation: Level One - Information and Education, Level Two - Public Involvement, and Level Three - Public Hearing.

LEGAL REQUIREMENT

Federal law, establishing public participation as an integral part of river basin and overall water quality planning, is set forth in Section 101(e), Federation Water Pollution Control Act (Section 2, Federal Water Pollution Control Act Amendments of 1972, Public Law 92-500, 86 Stat. 33 U.S.C.). In accordance with this Act, the U.S. Environmental Protection Agency established minimum guidelines for public participation through publication of Part 105 - Public Participation In Water Pollution Control (40 CFR 105, 38 FR 22756, August 23, 1973). The published guidelines encompass the "processes of development, revision, and enforcement of any regulation, standard, effluent limitation, plan, or program" undertaken in conformance to the Act. Section 105.3 of the regulations specifically states that agencies "carrying out activities under the Act shall provide for and conduct a continuing program for public participation. . . ." Guidelines for conducting public hearings as required in the Act are set forth in Section 105.7, which defines the express purpose of any public hearing as being a formal opportunity for persons and organizations "to be heard on a matter prior to decision-making." In addition, Section 105.7 encourages agencies "to hold public meetings or workshops, jointly where feasible, on significant matters or proposed actions. Such meetings shall not supplant public hearings when such are required, and shall be informational in nature with opportunity for public response."

PUBLIC PARTICIPATION PROCESS

The public participation process briefly stated in the Introduction to this chapter included three levels of activity. Each level was initiated to promote greater awareness among the public with regard to the statewide river basin planning effort. Information was disseminated throughout the plan development period through exposure in the

various news media, personal contact with administrative and planning agencies within each river basin study area, and a public workshop for interested citizens and public groups. A public hearing for the statewide river basin planning study was conducted in Frankfort to obtain formal comments and reactions to the ten river basin studies at the culmination of seven regional workshop sessions.

Level One: Information and Education

During the Fall of 1974, in the early stages of the development of the State's river basin plans, two news articles describing the process and its purpose were formulated for dissemination. One was

Exhibit 6.1t SALT RIVER BASIN STUDY SHOWS NATURAL FEATURES A PROBLEM

FRANKFORT, Ky.-- Natural features, such as topography and geology, make achievement of federal and state water quality standards difficult in the Salt River Basin, according to preliminary findings of an environmental consulting firm.

Those findings-- the basis upon which the state will distribute federal grants for construction of sewage treatment facilities-- will be discussed at a workshop sponsored by the state Environmental Quality Commission from 1 a.m. to 2 p.m., June 11, at Executive Inn in Louisville.

According to the Louisville firm of Schimpeler-Corradino Associates, which has been studying the Salt River Basin since last summer, major streams within the basin consistently have the lowest volume of water flows of any of the ten river basins in the state.

"That natural phenomenon," said the firm's representative, Charles Schimpeler, will require stringent controls by municipalities, industries and others who discharge waste effluent into much of the basin's waterways. On a local level, this has the effect of increasing the cost of providing the required treatment facilities.

However, things aren't all bad, Schimpeler added. "Because of the natural constraints presented by the low-flow stream conditions, municipalities within the Salt River Basin will be given added priority in their eligibility rating for state and federal facility construction grants."

Municipalities in the Salt River Basin include part of metropolitan Louisville, Lawrenceburg, Perryville, Shepherdsville, Radcliff, Fort Knox, Eminence, Lebanon, Harrodsburg, Bardstown, Shelbyville, LaGrange, Taylorsville and Springfield.

When the Salt River Basin study is finished, probably by early June, municipalities in the area will be ranked according to their need for federal funds to construct sewage treatment facilities. A strategy for water pollution control management in the basin will also be developed.

After the strategy and ranking is presented at the planned workshop in June, the consultants will study comments and present their findings to the division of water quality in the Kentucky Department for Natural Resources and Environmental Protection.

The division will combine the Salt River Basin study with similar studies of Kentucky's other river basins. The studies are being funded and coordinated by the state division of water quality.

The resulting information will provide a statewide water quality management plan that will, in part, be used to administer the federal construction grant program.

Municipalities then will be ranked statewide according to their need for federal grants to construct waste water control facilities. Those most in need will be first to receive the federal grants.

A public hearing will be held on that ranking when it is complete, sometime in July.

A public hearing will be held on that ranking when it is complete, sometime in July.

published in the Office of Local Government's publication FOCUS and the other was released from the Kentucky Department of Natural Resources and Environmental Protection to the State's news media. In late January of 1975 a second article, describing the statewide planning study of Kentucky river basins, outlining the purpose, and identifying the consultants performing the study, was released to the State's news media by the Kentucky Department of Natural Resources and Environmental Protection Agency. A third article, released by the Department in late April of 1975, again provided the public with the basic background behind the statewide river basin study and its intent. All articles were intended to provide continuity to the statewide river basin planning process, expose the public to the purpose of the process, and familiarize the public with the consulting firms performing the studies.

In addition to the general articles discussed above, individual articles directly concerning each river basin were released for publication to news agencies in the relevant geographical areas, during the Spring of 1975. The informational article appearing in Exhibit 6.1t, concerning the Salt River Basin and the important considerations involved in the planning program of this river basin, was released to the Salt River Basin area news media on May 12, 1975. Weekly and daily newspapers in the affected counties received a copy of this news release. On May 19, 1975, a second article, appearing as Exhibit 6.2t, was released to Salt River Basin area news agencies. This news release announced a river basin management planning workshop in the North Central area of Kentucky to be conducted June 11, 1975. This workshop was one of seven scheduled throughout the State for purposes of informing the general public and special interest groups of the planning process, its ultimate intent, and association with other water quality related activities.

Following culmination of the workshops (the last conducted June 13, 1975), an announcement was released to news agencies statewide notifying the citizens of Kentucky of a public hearing to be held in Frankfort to receive comments and opinions related to the ten river basin plans and the overall statewide planning process.

Level Two: Public Involvement

Active personal contact with public agencies and special interest groups was conducted, beginning in January, 1975, by all consultants preparing river basin plans under the direction of the Kentucky Department of Natural Resources and Environmental Protection. Consultants, preparing plans for the Salt River Basin, met with officials of two Area Development Districts comprising the counties contained within the respective river basins being studied: Lincoln Trail Area Development District and Kentuckiana Planning and Development Agency (Jefferson Area Development District). During these meetings, the printed summary of the planning effort for the Salt River Basin, shown in Exhibit 6.3t, was distributed to all attending and a brief presentation and discussion conducted. A public workshop for the Salt River Basin

Exhibit 6.2t FINDINGS OF RIVER BASIN STUDY TO BE PRESENTED AT WORKSHOP

FRANKFORT, Ky.--The findings of environmental consulting firms that have studied the water quality of the Salt River and the Ohio River Basins will be discussed at a workshop sponsored by the state Environmental Quality Commission from 10 a.m. to 2 p.m. June 11 in the Yorkshire Windsor Crown Room of the Executive Inn, in Louisville.

Those findings will form the basis upon which the state will distribute federal grants for construction of sewage facilities. Included in the findings is a strategy for water pollution control management in each basin and a ranking of municipalities in each basin according to their need for federal funds for construction of sewage treatment facilities.

The study of the Salt River Basin was made by Schimpeler-Corradino Associates of Louisville. The study of the Ohio River Basin was made by Metcalf & Eddy, Inc., of Boston, Massachusetts.

After the strategy and ranking is presented at the workshop, the consultants will study comments and present their findings to the division of water quality in the Kentucky Department for Natural Resources and Environmental Protection.

The division will combine the basin studies with similar studies being made by other consulting firms in each of Kentucky's ten river basins. The studies are being funded and coordinated by the state division of water quality.

Information contained in the studies will be used to produce a statewide water quality management plan that, in part, will be used to administer the federal construction grant program.

Municipalities throughout the state will be ranked according to their need for federal grants to construct waste water control facilities. The top of the list will have first priority to receive the federal grants.

area was conducted June 11, 1975 at the Yorkshire-Windsor Crown Room of the Original Executive Inn in Louisville, Kentucky. In addition to the announcement article cited above, which was released to Salt River Basin area news agencies by the Kentucky Department of Natural Resources and Environmental Protection, 126 letters of invitation were sent out to interested groups, public agencies, and individuals in the Salt River Basin through the Environmental Quality Commission of the State of Kentucky. The list of groups and agencies receiving invitations to the workshops is shown in Exhibit 6.4t.

Exhibit 6.3t SUMMARY PRESENTATION TO AREA DEVELOPMENT DISTRICTS

Enactment of the Federal Water Pollution Control Amendments of 1972 (PL 92-500) established specific national water quality goals for all waters of the United States. The 1972 Amendments authorized substantial federal funds to assist local governments in implementing the mandates of the Act. During Fiscal Years 1972, 1973, and 1974, Kentucky received a total of nearly 65 million dollars for distribution to municipalities needing improved wastewater treatment. Another 65 million dollars has been authorized for distribution in Fiscal Year 1975.

River basin planning is a major element in the state's water quality management program for fulfilling the requirements of the 1972 Act. Basin plans will serve to coordinate and direct on a river basin scale activities related to water quality management. Simply stated, the basin plan will be a management document identifying the basin's water quality problems and setting forth a remedial program to alleviate those problems.

Specifically, the basin plans will be involved in the following activities:

1. Identifying Problems: Determining existing water quality, specifying applicable water quality standards, and identifying and analyzing all pollutant sources.
2. Determining Priorities: Assessing water quality and abatement needs so as to establish priorities for awarding construction grants, processing permits, and taking other needed steps to achieve water quality goals.
3. Scheduling Actions: Setting forth compliance schedules or target abatement dates and indicating necessary state and local activities.
4. Coordinating Planning: Identifying needs and priorities for 201 facilities plans and 208 areawide plans within the basin and reflecting the results of those activities.

Presently, river basin plans for the ten river basins comprising the Commonwealth are being prepared for the Department for Natural Resources and Environmental Protection by engineering and planning consulting firms. While each basin plan is a separate and unique document, compatibility among the plans is essential to insure development and periodic update of an efficient statewide management

plan. For this reason, representatives of each consulting firm are meeting regularly to outline standardization procedures for data collection, water quality sampling and analysis, activity scheduling, and report format.

Upon completion of each individual basin plan presently scheduled for July, 1975, the plans will be integrated into a statewide planning program that will comprise the backbone of the state's continuing planning process required by Section 303(e) of the Water Pollution Control Act Amendments of 1972. Through this process, the basin plans will be periodically reviewed and updated as additional information and knowledge are obtained, initial objectives are accomplished, other related planning is completed, and available resources and capabilities are increased.

Exhibit 6.4t CITIZENS, INTERESTED GROUPS, AND PUBLIC AGENCIES OR OFFICIALS RECEIVING LETTER OF INVITATION TO ATTEND SALT RIVER BASIN MANAGEMENT PLANNING WORKSHOP

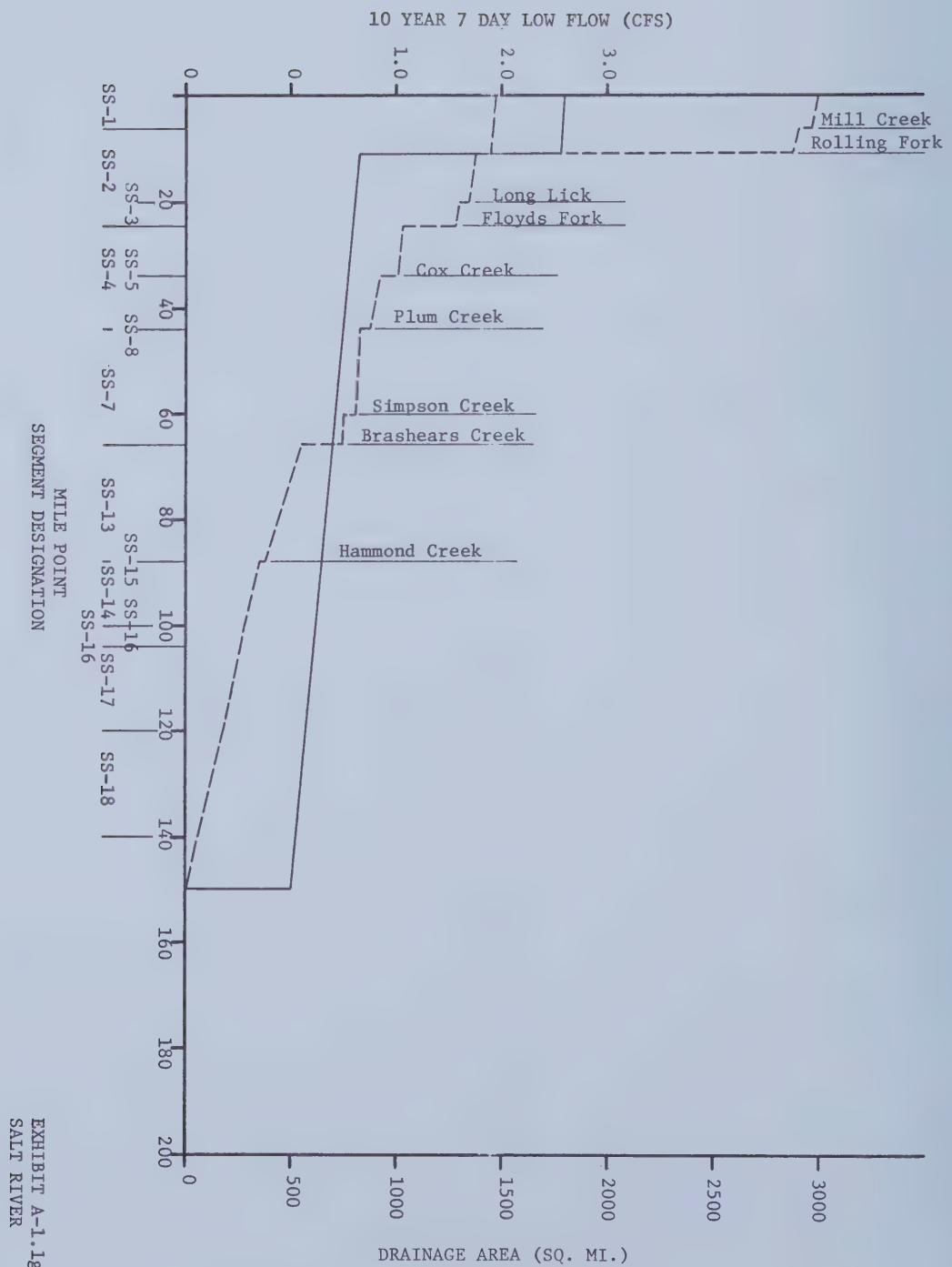
Sierra Club
Audubon Society
League of Women Voters
League of Kentucky Sportsmen
Chambers of Commerce
Soil Conservation Service
Municipal Government and County Judges
Area Development Districts
Health Departments
Environmental Quality Commission Mailing List
Kentucky Members of ORSANCO and Ohio River Basin Commission

(Salient comments of questions raised during conduct of the workshop will be included in the final draft of this document).

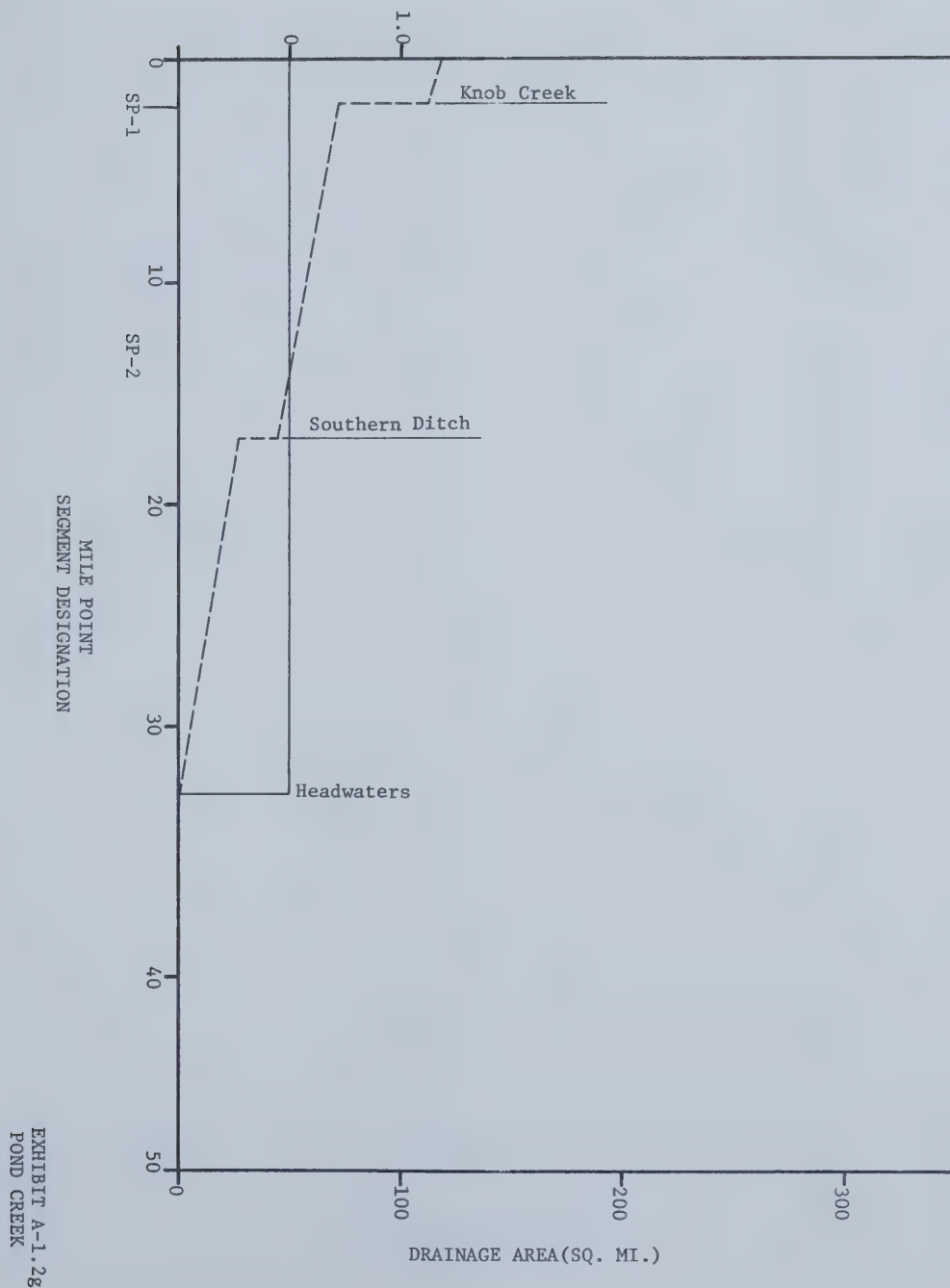
Level Three: Public Hearing

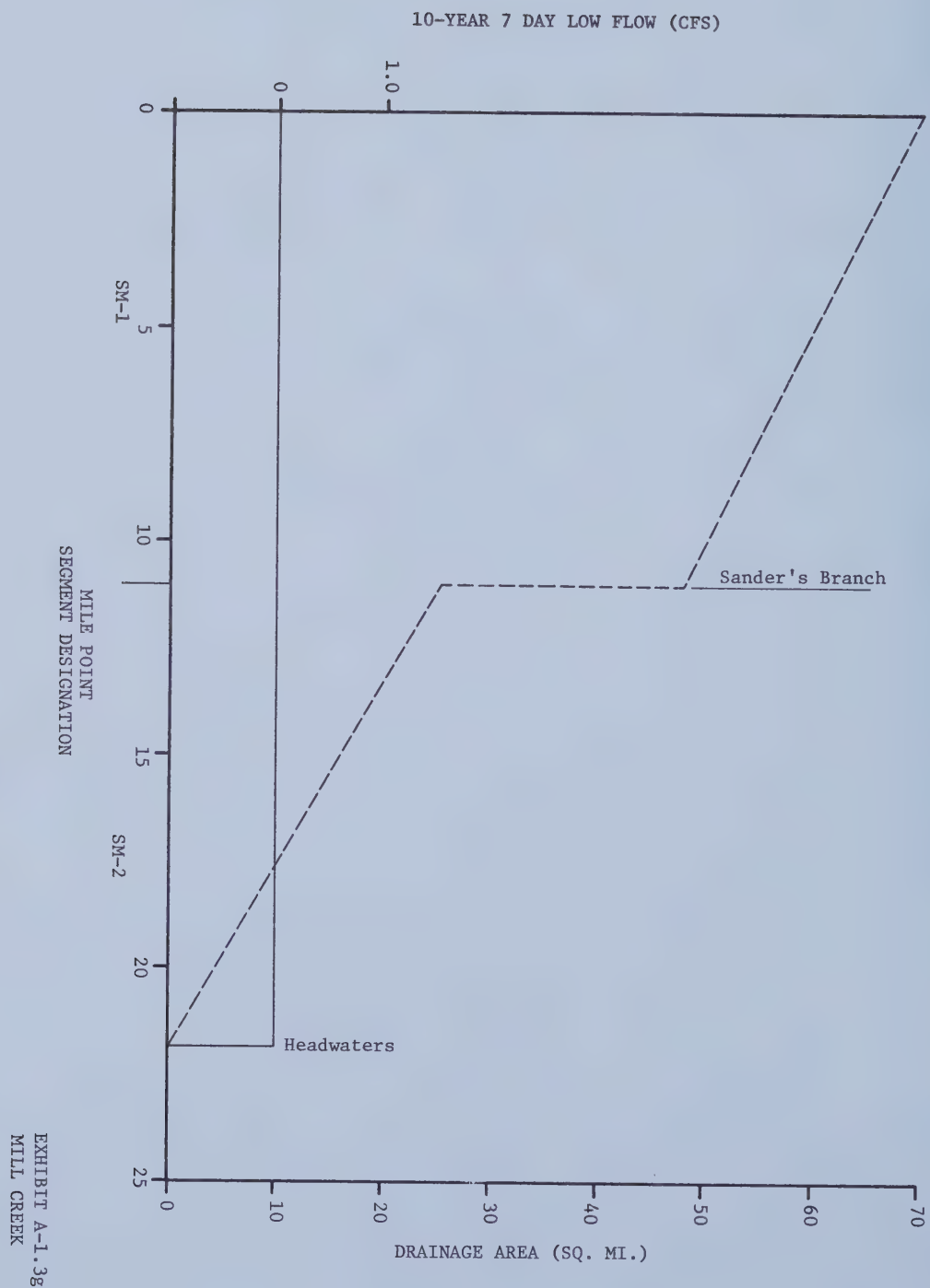
(To be included after the public hearing has been conducted in Frankfort.)

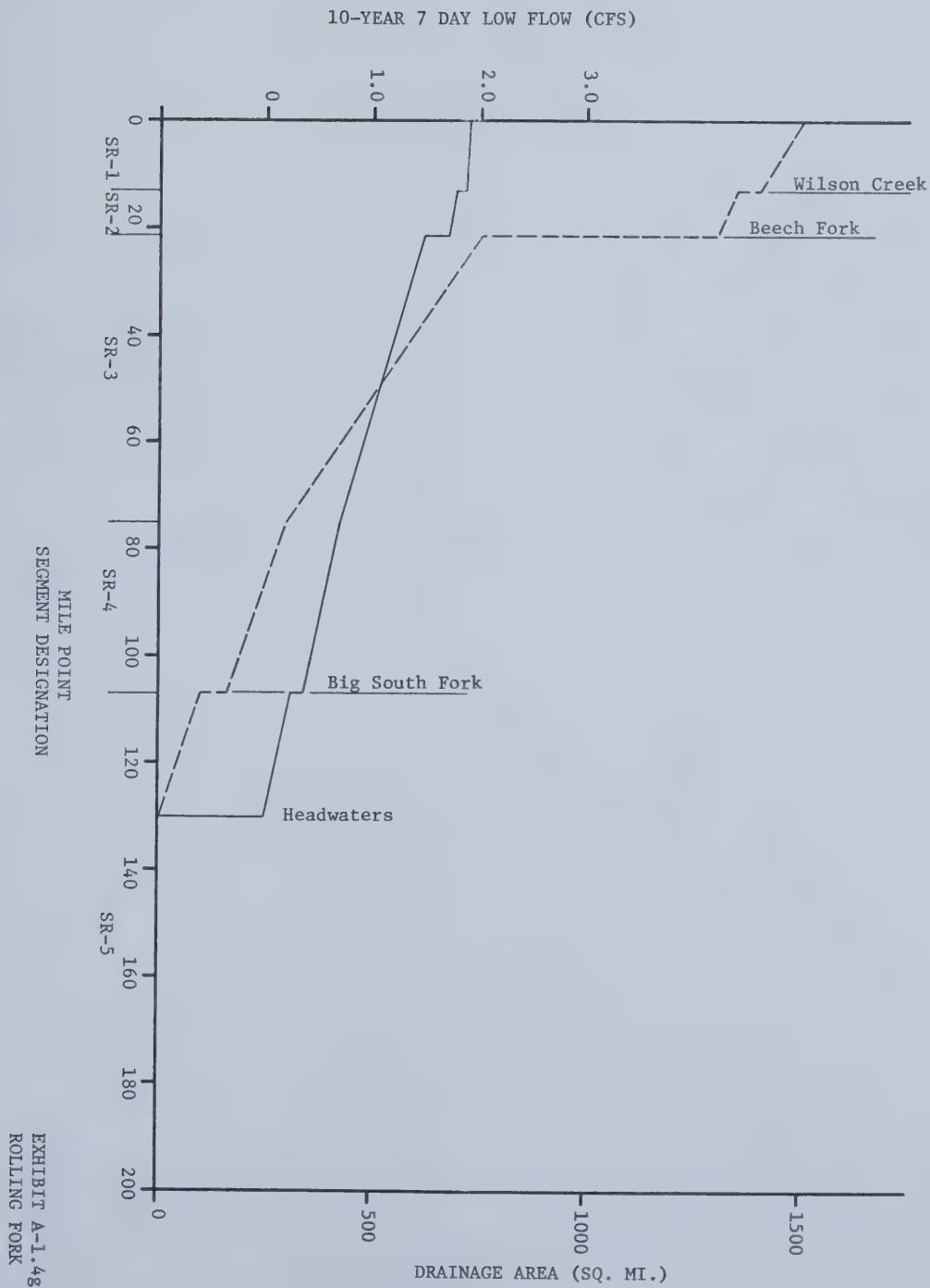
APPENDIX A

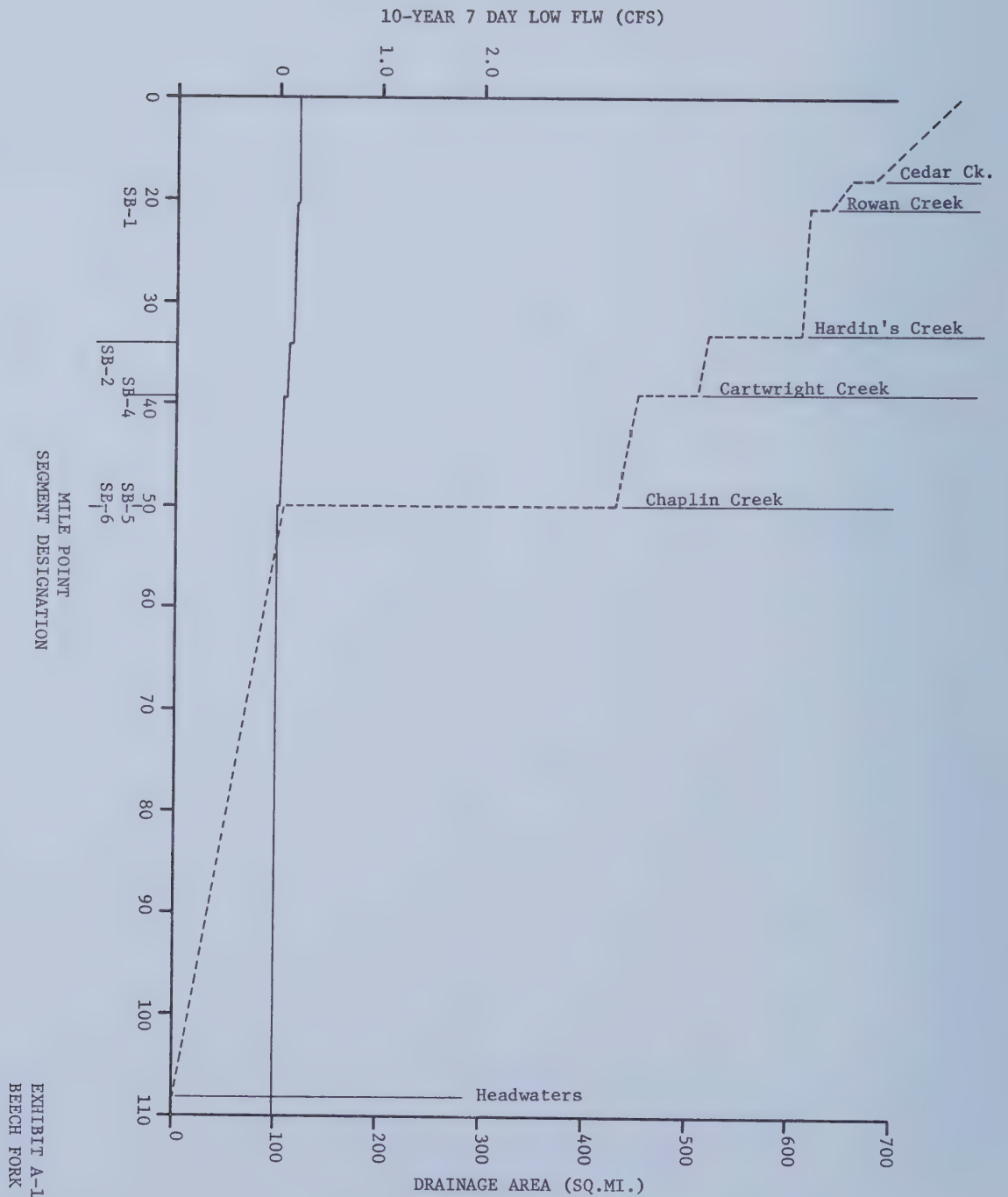


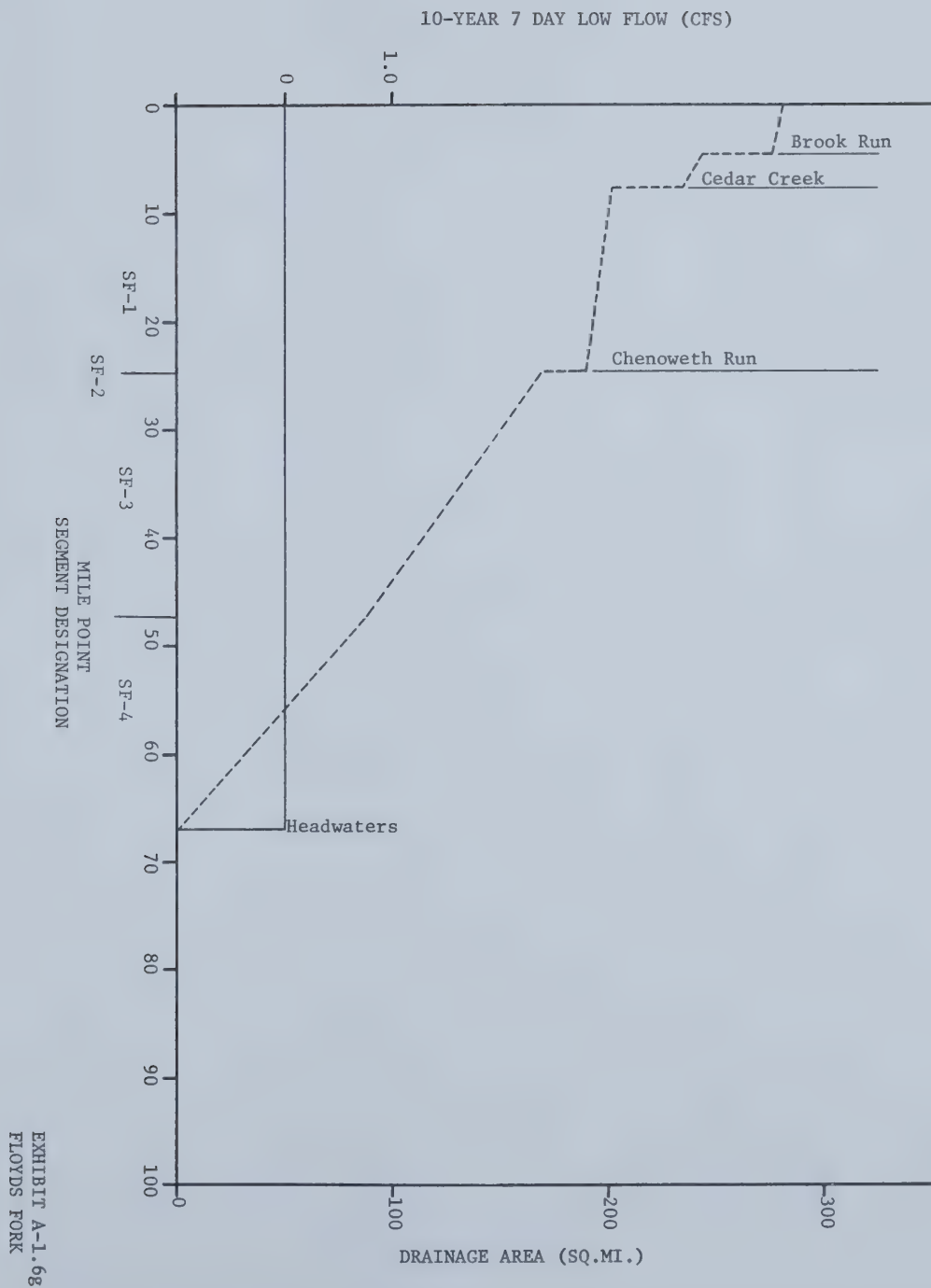
10 YEAR 7 DAY LOW FLOW (CFS)











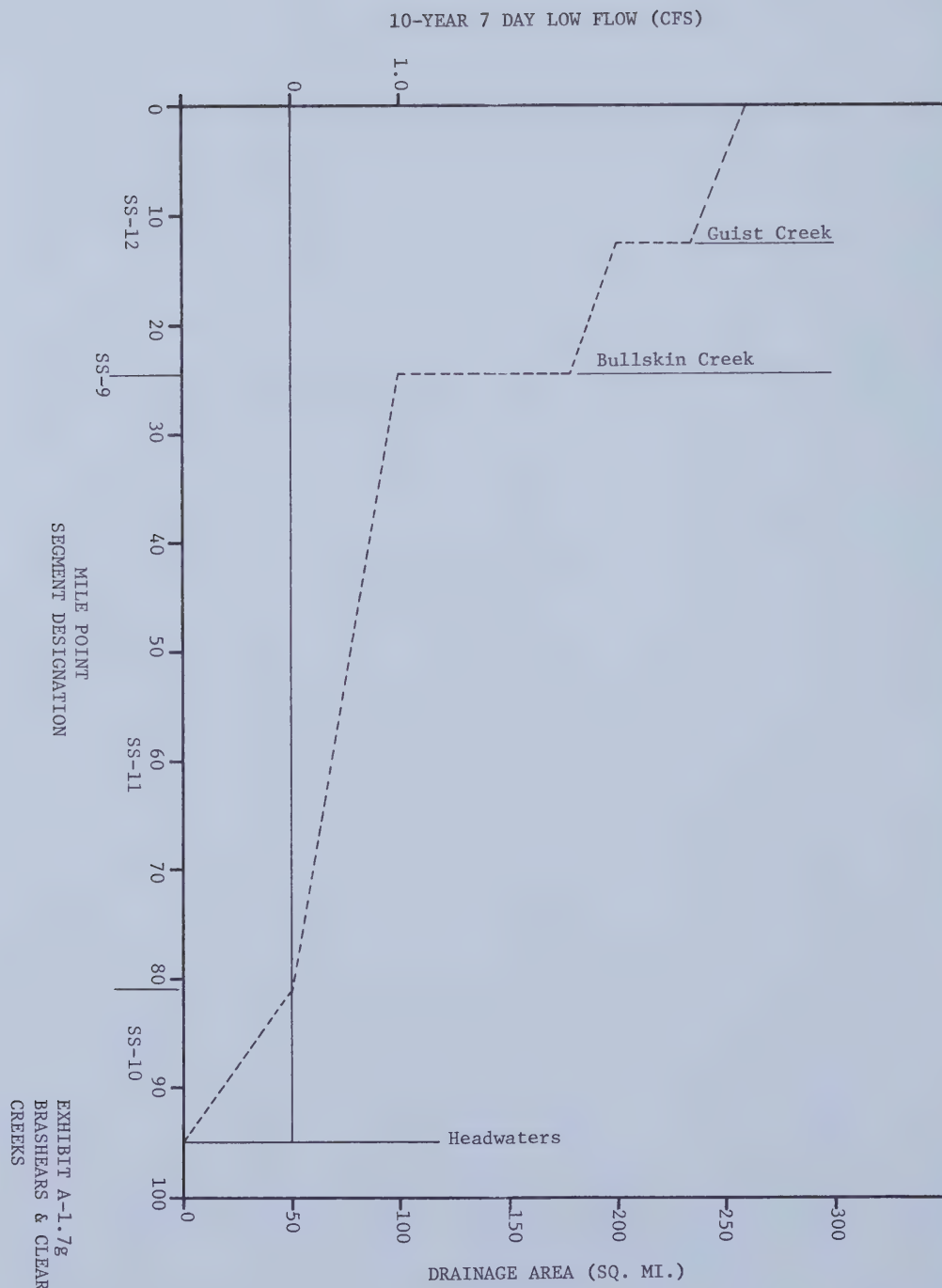


Exhibit A-1at WATER QUALITY DATA - U.S. GEOLOGICAL SURVEY

Water Quality Monitoring Station - Date of Sample	Stream- Flow (CFS)	Water Temp. (°C)	pH	Conduc- tivity (umhos)	Micrograms per Liter (mg/l)								
					Arse- nic	Cad- mium	Chrom- ium	Co- balt	Cop- per	Lead	Manga- nese	Mer- cury	Zinc
Kentucky Standard	-	31.7	6-9	800	50	100	50	-	-	50	-	-	-
Salt River at Shepherdsville SS-02 March 1974 - February 1975	2740	3.5/20.5	7.2	371/448	0/4	0/1	0/3	0/4	1/7	0/9	-	0/0.1	0/80
January 1970 - November 1974	-	-	6.9/8.5	170/540	0/3	0/4	0/5	-	-	0/34	1/18	-	-
Rolling Fork at Lebanon Junc- tion SR-01 April 1975	1460	12.0	6.9	350	0	1	0	0	7	3	110	0.2	0
Pond Creek Near Louisville SP-02 April 1974 - February 1975	95	3.5/22.0	6.9	515	1/6	0/1	0/3	0/2	2/13	0/6	-	0/0.1	30/330

Exhibit A-lbt WATER QUALITY DATA - LOUISVILLE 201 FACILITIES PLAN

Water Quality Monitoring Station	Date	Water Temperature °C	Dissolved Oxygen mg/l	pH	Coliform per 100ml Fecal/Total	Total Dissolved Solids-mg/l
Kentucky Standard ¹	-	31.7	5.0 mg/l	6-9	200/1000	500
Floyds Fork at Aiken Road	July,Oct 1973	14-23	5.2- 5.4	7.4-7.6	100/1000	320
Long Run at Shelbyville Road	July,Oct 1973	12-23	6.0- 8.0	7.6-8.0	10/1000	200
Long Run at Taylorsville Road	July-Nov 1973	11-24	6.6- 8.9	6.7-7.9	100/ 100	250-316
Pope Lick at North Pope Lick Road	July,Oct 1973	17-22	7.8- 8.1	6.9-7.9	10/1000	580
Pope Lick at Taylorsville Road	July-Nov 1973	12-24	8.0-10.1	7.8-9.4	100/1000	254-300
Floyds Fork at Brush Run Road	July,Oct 1973	15-26	7.3- 8.0	7.1-7.5	30/1000	280
Chenoweth Run at Moser Road	July 1973	20	9.0	7.6	-/2000	
Chenoweth Run at Taylorsville Road	July,Oct 1973	17-21	5.8- 6.3	7.1-7.6	30/2000	280
Chenoweth Run at Brush Run Road	July-Nov 1973	14-26	9.4-11.0	7.3-8.2	100/1900	500-526
Floyds Fork at Broad Run Road	July,Oct 1973	14-25	7.0- 9.8	7.9	200/1000	400
Floyds Fork at Bardstown Road	July-Nov 1973	14-26	7.7-10.5	7.3-7.7	100/4000	300-346
Fern Creek at Watterson Trail	July,Oct 1973	11-18	6.4- 8.9	6.8-7.6	10/19000	420
Northern Ditch at Preston Highway	Aug,Oct 1973	20	7.2- 7.7	6.8-6.9	-/1000	350
Fern Creek at Fegenbush Lane	Aug 1973	21	8.1	7.1	-/1000	
Southern Ditch at Minors Lane	Aug,Oct 1973	19-20	6.4- 8.0	7.0-7.5	-/3000	500
Cedar Creek at Bardstown Road	July 1973	26	8.1	7.5	-/1000	
Cedar Creek at Thixton Lane	Aug-Dec 1973	5-20	8.4-11.5	7.1-9.1	90/1000	384-460
McNeely Lake at Cooper Chapel Road	Aug 1973	23	6.0	6.8	-/1000	
Pennsylvania Run at Mt. Washington	Aug-Dec 1973	7-22	6.8- 9.0	7.2-7.8	200/TNTC	218-260
Wilson Creek at Marilyn Avenue	Aug,Oct 1973	18	6.3- 7.0	6.0-6.9	-/7000	480
Northern Ditch at Grade Lane	Aug-Dec 1973	8-21	4.9- 7.9	6.5-7.0	50/26000	400-434
Southern Ditch at Toll Lane	Aug 1973	21	5.6	7.0	-/1000	
Northern Ditch at Outer Loop	Aug,Oct 1973	21	3.8- 5.5	6.9	10/1000	380
Pond Creek at Manslick Road	Aug-Dec 1973	8-20	2.6- 7.2	6.8-7.4	300/8900	422-430
Pond Creek at Stonestreet Road	Aug,Oct 1973	20-23	7.0- 8.5	6.6-6.9	250/6000	430
Pond Creek at Blevins Gap Road	Sept 1973	19	4.8	7.0	-/10	200
Pond Creek at Katherine Road	Aug-Dec 1973	6-21	5.6-10.2	6.9-7.6	300/100	312-380
Salt River Upstream from Pond Creek	Aug,Dec 1973	5-21	5.4-11.2	6.9-7.0	60/59000	266
Salt River at Dixie Highway	Aug,Oct 1973	19-22	4.0- 4.3	6.1-6.8	100/50000	380

¹Parameters in italics are water quality violations.

Exhibit A-1ct SURFACE FLOW RECORDS FOR THE SALT RIVER BASIN*

Station	Period of Record	Drainage Area sq.mi.	Average Flow cfs	Maximum Flow cfs	Minimum Flow cfs	7 day-10 yr. Low Flow cfs
Salt River at Shepherdsville (SS-02)	36 yr.	1,197	1,516	78,200	0.0	0.6
Floyds Fork of Salt River at Fisherville (SF-03)	30 yr.	138	168	28,500	0.0	0.0
Rolling Fork of Salt River at Boston (SR-02)	36 yr.	1,299	1,705	50,500	0.4	1.7
Beech Fork of Salt River at Bardstown (SB-01)	35 yr.	699	894	33,900	0.0	0.2

*Data is taken from "Surface Water Records in Kentucky" by the United States Geological Survey. The 7 day 10 year low flow was taken from waste load allocation produced as a component of the 303(e) River Basin Continuing Planning Process.

Exhibit A-2t COUNTY AND SEGMENT POPULATION TRENDS AND PROJECTIONS, SALT RIVER BASIN 1970-1995

Area	Population at Year				Population Change Between Year					
	1970 ¹	1975 ²	1980 ²	1995 ³	1970-75		1975-80		1980-95	
					Number	%	Number	%	Number	%
State of Ky.	3,218,706	3,375,638	3,564,414	4,254,305	156,932	4.87	188,776	5.59	689,891	19.35
Fifteen County Total	970,579	1,038,997	1,117,750	1,402,317	68,418	7.05	78,753	7.53	284,567	25.46
Outside SRB	633,487	662,626	695,696	842,181	29,139	4.60	33,070	4.99	146,485	21.06
Inside SRB	337,092	376,371	422,054	560,136	39,279	11.65	45,683	11.14	138,082	32.72
Urban	210,932	245,922	288,008	420,368	34,990	16.59	42,086	17.11	132,360	45.96
Rural	126,160	130,449	134,046	139,768	4,289	3.40	3,597	2.76	5,722	4.27
Farm	45,224	44,404	43,970	38,487	-820	1.81	-1,434	3.23	-4,483	10.43
Nonfarm	80,936	86,045	91,075	101,281	5,109	6.31	5,031	5.85	10,205	11.20
Anderson County Total	9,358	9,798	10,296	12,136	440	4.7	498	5.1	1,840	17.9
Outside SRB	1,483	1,205	1,317	1,486	-278	18.7	112	9.3	169	12.8
Inside SRB	7,875	8,593	8,979	10,650	718	9.12	386	4.5	1,671	18.6
Urban	33,579	4,031	4,540	6,425	452	12.6	509	12.6	1,885	41.5
Rural	4,296	4,562	4,439	4,225	266	6.2	-123	2.7	-214	4.8
Farm	2,480	2,517	2,136	1,297	37	1.5	-381	15.1	-839	39.3
Nonfarm	7,816	2,045	2,303	2,928	229	12.6	258	12.6	-625	27.1
Segment SB-5	1,103	1,203	1,257	1,491	100	9.1	54	4.5	234	18.6
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	1,103	1,203	1,257	1,491	100	9.1	54	4.5	234	18.6
Farm	637	664	605	458	27	4.2	-59	8.9	-147	24.3
Nonfarm	466	539	652	1,033	73	15.7	113	21.0	381	58.4
Segment SS-14	1,693	1,848	1,931	2,290	155	9.2	83	4.5	359	18.6
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	1,693	1,848	1,931	2,290	155	9.2	83	4.5	359	18.6
Farm	997	1,019	929	703	42	4.3	-90	8.8	-226	24.3
Nonfarm	716	829	1,002	1,587	113	15.8	173	20.9	585	58.4
Segment SS-15	4,874	5,319	5,558	6,592	445	9.1	239	4.5	1,034	18.6
Urban	3,579	4,031	4,540	6,425	452	12.6	509	12.6	1,885	41.5
Rural	1,295	1,288	1,018	167	-7	0.5	-270	21.0	-851	83.6
Farm	748	711	490	51	-37	5.0	-221	31.1	-439	89.6
Nonfarm	547	577	528	116	30	5.5	-49	8.5	-412	78.0
Segment SS-16	205	223	233	277	18	8.8	10	4.5	44	18.9
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	205	223	233	277	18	8.8	10	4.5	44	18.9
Farm	118	123	112	85	5	4.2	-11	8.9	-27	24.1
Nonfarm	87	100	121	192	13	14.9	21	21.0	71	58.7
Boyle County Total	21,090	21,416	21,767	22,763	326	1.55	351	1.6	996	4.6
Outside SRB	16,840	16,442	16,698	17,573	-398	2.4	256	1.6	875	5.2
Inside SRB	4,250	4,974	5,069	5,190	724	17.0	95	1.9	121	2.4
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	4,250	4,974	5,069	5,190	724	17.0	95	1.9	121	2.4
Farm	1,255	1,469	1,497	1,533	214	17.0	28	1.9	36	2.4
Nonfarm	2,995	3,505	3,572	3,657	510	17.0	67	1.9	85	2.4
Segment SB-5	1,203	1,408	1,435	1,469	205	17.0	27	1.9	34	2.4
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	1,203	1,408	1,435	1,469	205	17.0	27	1.9	34	2.4
Farm	355	416	424	434	61	17.2	8	1.9	10	2.4
Nonfarm	848	992	1,011	1,035	144	17.0	19	1.9	24	2.4
Segment SB-6	1,615	1,890	1,926	1,972	275	17.0	36	1.9	46	2.4
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	1,615	1,890	1,926	1,972	275	17.0	36	1.9	46	2.4
Farm	477	558	569	582	81	17.0	11	2.0	13	2.3
Nonfarm	1,138	1,332	1,357	1,390	194	17.1	25	1.9	33	2.4

Exhibit A-2t COUNTY AND SEGMENT POPULATION TRENDS AND PROJECTIONS, SALT RIVER BASIN 1970-1995 (CONT'D)

Area	Population at Year				Population Change Between Year					
					1970-75		1975-80		1980-95	
	1970 ¹	1975 ²	1980 ²	1995 ³	Number	%	Number	%	Number	%
Boyle County (Cont'd)										
Segment SR-5	1,058	1,239	1,262	1,292	181	17.1	23	1.9	33	2.6
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	1,058	1,239	1,262	1,292	181	17.1	25	1.9	33	2.6
Farm	312	366	373	382	54	17.3	61	16.7	9	2.4
Nonfarm	746	873	889	910	127	17.0	16	1.8	21	2.4
Segment SS-18	374	437	446	457	63	16.8	9	2.1	11	2.5
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	374	437	446	457	63	16.8	9	2.1	11	2.5
Farm	111	129	131	135	18	16.2	2	1.6	4	3.1
Nonfarm	263	308	315	322	45	17.1	7	2.3	7	2.2
Bullitt County										
Total	26,090	31,839	39,368	76,359	5,749	22.0	7,529	23.7	36,991	93.96
Outside SRB	0	0	0	0	0	0.0	0	0.0	0	0.0
Inside SRB	26,090	31,839	39,368	76,359	5,749	22.0	7,529	23.7	36,991	93.96
Urban	2,769	7,829	15,192	61,573	5,060	82.7	7,363	94.0	46,381	305.3
Rural	23,321	24,010	24,176	14,786	689	2.95	166	0.69	9,389	38.84
Farm	3,344	3,443	3,467	2,120	99	2.96	24	0.70	-1,347	38.85
Nonfarm	19,977	20,567	20,709	12,666	590	2.95	142	0.69	-8,042	38.83
Segment SF-1	11,857	12,019	12,261	33,873	162	1.4	242	2.0	21,612	176.3
Urban	0	2,650	4,000	26,057	2,650	0.0	1,350	50.9	22,051	551.4
Rural	11,857	9,369	8,261	7,816	-2,488	21.0	-1,108	11.8	-445	5.4
Farm	1,700	1,343	1,185	1,121	-357	21.0	-158	11.8	-64	5.4
Nonfarm	10,157	8,026	7,076	6,695	-2,131	21.0	-950	11.8	-381	5.4
Segment SP-2	2,193	2,672	3,307	6,414	479	21.8	635	23.8	3,107	94.0
Urban	0	0	0	6,414	0	0.0	0	0.0	0	0.0
Rural	2,193	2,672	3,307	0	479	21.8	635	23.8	3,107	0.0
Farm	314	383	474	0	69	22.0	91	23.8	-474	0.0
Nonfarm	1,879	2,289	2,833	0	410	21.8	544	23.8	-2,833	0.0
Segment SR-1	2,648	3,248	4,015	4,015	600	22.7	767	23.6	0	0.0
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	2,648	3,248	4,015	4,015	600	22.7	767	23.6	0	0.0
Farm	380	467	576	575	87	22.9	108	23.1	0	0.0
Nonfarm	2,268	2,781	3,439	3,440	513	22.6	659	23.7	0	0.0
Segment SR-2	244	288	354	500	44	18.0	66	22.9	146	41.2
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	244	288	354	500	44	18.0	66	22.9	146	41.2
Farm	35	41	51	72	6	17.1	10	24.4	21	41.2
Nonfarm	209	247	303	428	38	18.2	56	22.7	125	41.2
Segment SS-2	5,003	8,581	13,210	21,714	3,578	71.5	4,629	53.9	8,504	64.4
Urban	2,769	5,179	11,192	21,714	2,410	87.0	6,013	116.1	10,522	94.0
Rural	2,234	3,402	2,018	0	1,168	52.3	-1,384	40.7	-2,018	0.0
Farm	320	488	289	0	168	52.5	-199	40.8	-289	0.0
Nonfarm	1,914	2,914	1,729	0	1,000	52.2	-1,185	40.7	-1,729	0.0
Segment SS-3	1,496	1,815	2,244	2,394	319	21.3	429	23.6	150	6.7
Urban	0	0	0	2,176	0	0.0	0	0.0	2,176	0.0
Rural	1,496	1,815	2,244	218	319	21.3	429	23.0	-2,026	90.3
Farm	214	260	322	31	46	21.5	62	23.9	-291	90.4
Nonfarm	1,282	1,555	1,922	187	273	21.3	367	23.6	-1,735	90.3
Segment SS-4	2,379	2,897	3,583	6,949	518	21.8	686	23.7	3,366	93.9
Urban	0	0	0	5,212	0	0.0	0	0.0	5,212	0.0
Rural	2,379	2,897	3,583	1,732	518	21.8	686	23.7	-1,846	51.5
Farm	341	415	514	249	74	21.7	99	23.9	-265	51.6
Nonfarm	2,038	2,482	3,069	1,488	444	21.8	587	23.7	-1,581	51.5

Exhibit A-2t COUNTY AND SEGMENT POPULATION TRENDS AND PROJECTIONS, SALT RIVER BASIN 1970-1995 (CONT'D)

Area	Population at Year				Population Change Between Year					
	1970 ¹	1975 ²	1980 ²	1995 ³	1970-75		1975-80		1980-95	
					Number	%	Number	%	Number	%
Bullitt County (Cont'd)										
Segment SS-5	270	319	394	500	49	18.2	75	23.5	106	26.9
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	270	319	394	500	49	18.2	75	23.5	106	26.9
Farm	40	46	56	72	6	15.0	10	21.7	16	28.6
Nonfarm	230	273	338	428	43	18.7	65	23.8	90	26.6
Casey County										
Total	12,930	12,781	12,644	11,989	-149	1.15	-137	1.07	-655	5.18
Outside SRB	12,072	11,933	11,805	11,194	-139	1.15	-128	1.07	-611	5.18
Inside SRB	858	848	839	795	-139	1.15	-9	1.06	-44	5.24
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	858	848	839	795	-10	1.17	-9	1.06	-44	5.24
Farm	858	848	839	795	-10	1.17	-9	1.06	-44	5.24
Nonfarm	0	0	0	0	0	0.0	0	0.0	0	0.0
Segment SR-5	858	848	839	795	-10	1.2	-9	1.1	-44	5.2
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	858	848	839	795	-10	1.2	-9	1.1	-44	5.2
Farm	858	848	839	795	-10	1.2	-9	1.1	-44	5.2
Nonfarm	0	0	0	0	0	0.0	0	0.0	0	0.0
Hardin County										
Total	78,421	83,974	89,540	105,553	5,553	7.08	5,566	6.63	16,013	17.88
Outside SRB	33,058	38,410	40,955	48,280	5,352	16.19	2,545	6.63	7,325	17.89
Inside SRB	45,363	45,564	48,585	57,273	201	0.44	3,021	6.63	8,688	17.88
Urban	39,632	39,809	42,449	50,039	177	0.45	2,640	6.63	7,590	17.88
Rural	5,731	5,755	6,136	7,234	24	0.42	75	13.05	728	11.19
Farm	1,699	1,614	1,442	1,309	85	5.00	85	5.27	220	14.49
Nonfarm	4,032	4,141	4,694	5,925	109	2.70	836	20.19	948	19.05
Segment SM-1	30,620	30,756	32,795	38,659	136	0.4	2,039	6.6	5,864	17.9
Urban	30,620	30,756	32,795	38,659	136	0.4	2,039	6.6	5,864	17.9
Rural	0	0	0	0	0	0.0	0	0.0	0	0.0
Farm	0	0	0	0	0	0.0	0	0.0	0	0.0
Nonfarm	0	0	0	0	0	0.0	0	0.0	0	0.0
Segment SM-2	12,701	12,758	13,604	16,036	57	0.4	57	0.4	2,432	17.9
Urban	9,012	9,053	9,654	11,380	41	0.5	601	6.6	1,726	17.9
Rural	3,689	3,705	3,950	4,656	16	0.4	245	6.6	706	17.9
Farm	1,094	1,039	928	843	-55	5.0	-111	10.7	-85	9.2
Nonfarm	2,595	2,666	3,022	3,813	71	2.7	356	13.4	791	26.2
Segment SR-1	318	319	340	402	1	0.3	21	6.6	62	18.2
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	318	319	340	402	1	0.3	21	6.6	62	18.2
Farm	94	89	80	73	-5	5.3	-9	10.1	-7	8.8
Nonfarm	224	230	260	329	6	2.7	30	13.0	69	26.5
Segment SR-2	1,724	1,731	1,846	2,176	7	0.4	115	6.6	330	17.9
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	1,724	1,731	1,846	2,176	7	0.4	115	6.6	330	17.9
Farm	511	486	434	393	-25	4.9	-52	10.7	-41	9.4
Nonfarm	1,213	1,245	1,412	1,783	32	2.6	167	13.4	381	27.0
Segment SS-1	0	0	0	0	0	0.0	0	0.0	0	0.0
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	0	0	0	0	0	0.0	0	0.0	0	0.0
Farm	0	0	0	0	0	0.0	0	0.0	0	0.0
Nonfarm	0	0	0	0	0	0.0	0	0.0	0	0.0

Exhibit A-2t COUNTY AND SEGMENT POPULATION TRENDS AND PROJECTIONS, SALT RIVER BASIN 1970-1995 (CONT'D)

Area	Population at Year				Population Change Between Year					
					1970-75		1975-80		1980-95	
	1970 ¹	1975 ²	1980 ²	1995 ³	Number	%	Number	%	Number	%
Henry County										
Total	10,910	11,421	12,066	14,842	511	4.68	645	5.65	2,776	23.01
Outside SRB	7,889	8,257	8,724	10,731	368	4.66	467	5.66	2,007	23.01
Inside SRB	3,021	3,164	3,342	4,111	143	4.73	178	5.63	769	23.01
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	3,021	3,164	3,342	4,111	143	4.73	178	5.63	769	23.01
Farm	796	834	881	1,083	38	4.65	47	5.64	202	22.93
Nonfarm	2,225	2,330	2,461	3,028	105	4.72	131	5.62	567	23.04
Segment SF-4	198	209	221	271	11	5.6	12	5.7	50	22.6
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	198	209	221	271	11	5.6	12	5.7	50	22.6
Farm	52	55	59	71	3	5.8	4	7.3	12	20.3
Nonfarm	146	154	162	200	8	5.5	8	5.2	38	23.5
Segment SS-9	2,423	2,537	2,680	3,297	114	4.7	143	5.6	617	23.0
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	2,423	2,537	2,680	3,297	114	4.7	143	5.6	617	23.0
Farm	639	669	706	869	30	4.7	37	5.5	163	23.1
Nonfarm	1,784	1,868	1,974	2,428	84	4.7	106	5.7	454	23.0
Segment SS-10	400	418	441	543	18	4.5	23	5.5	102	23.1
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	400	418	441	543	18	4.5	23	5.5	102	23.1
Farm	105	110	116	143	5	4.8	6	5.5	27	23.3
Nonfarm	295	308	325	400	13	4.4	17	5.5	75	23.1
Jefferson County										
Totals	695,055	744,482	800,507	994,526	49,427	7.11	56,025	7.53	194,019	24.24
Outside SRB	535,372	557,124	584,182	709,503	21,752	4.06	27,058	4.86	125,321	21.45
Inside SRB	159,683	187,358	216,325	285,023	27,675	17.33	28,967	15.46	68,698	31.76
Urban	139,724	166,541	195,221	260,983	28,817	19.19	28,680	17.22	65,762	33.69
Rural	19,959	20,817	21,104	24,040	858	4.30	287	1.38	2,936	13.91
Farm	4,751	4,531	4,078	3,670	-220	4.63	-453	10.00	-408	10.00
Nonfarm	15,208	16,286	17,026	20,370	1,078	7.09	740	4.54	3,344	19.64
Segment SF-1	11,245	12,081	13,024	14,897	836	7.4	943	7.8	1,873	14.4
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	11,245	12,081	13,024	14,897	836	7.4	943	7.8	1,873	14.4
Farm	2,677	2,629	2,517	2,274	-48	1.8	-112	4.4	-243	9.7
Nonfarm	8,568	9,452	10,507	12,623	884	10.3	1,055	11.2	2,116	20.1
Segment SF-2	11,458	15,917	20,464	31,996	4,459	38.9	4,547	28.6	11,532	56.4
Urban	9,701	15,123	19,443	31,695	5,422	55.9	4,320	28.6	12,252	63.0
Rural	1,757	794	1,021	301	-963	54.8	227	28.6	-720	70.5
Farm	418	173	197	46	-245	58.6	24	13.9	-151	76.6
Nonfarm	1,339	621	824	255	-718	53.6	203	32.7	-569	69.1
Segment SF-3	11,901	15,650	19,498	29,119	3,749	31.5	3,848	24.6	9,621	49.3
Urban	4,944	7,708	12,439	20,277	2,764	55.9	4,731	61.4	7,838	63.0
Rural	6,957	7,942	7,059	8,842	2,764	39.7	-883	11.1	5,709	80.9
Farm	1,656	1,729	1,364	1,350	73	4.4	-365	21.1	-14	1.0
Nonfarm	5,301	6,213	5,695	7,492	912	17.2	-518	8.3	1,797	31.6
Segment SP-2	125,079	143,710	163,339	209,011	18,631	14.9	19,629	13.7	45,672	28.0
Urban	125,079	143,710	163,339	209,011	18,631	14.9	19,629	13.7	45,672	28.0
Rural	0	0	0	0	0	0.0	0	0.0	0	0.0
Farm	0	0	0	0	0	0.0	0	0.0	0	0.0
Nonfarm	0	0	0	0	0	0.0	0	0.0	0	0.0

Exhibit A-2t COUNTY AND SEGMENT POPULATION TRENDS AND PROJECTIONS, SALT RIVER BASIN 1970-1995 (CONT'D)

Area	Population at Year				Population Change Between Year					
					1970-75		1975-80		1980-95	
	1970 ¹	1975 ²	1980 ²	1995 ³	Number	%	Number	%	Number	%
Larue County										
Total	10,672	11,095	11,720	14,208	423	3.96	625	5.63	2,418	21.23
Outside SRB	9,036	9,397	9,927	12,034	361	4.00	530	5.64	2,107	21.22
Inside SRB	1,636	1,698	1,793	2,174	62	3.79	95	5.59	381	21.25
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	1,636	1,698	1,793	2,174	62	3.79	95	5.59	381	21.25
Farm	1,309	1,359	1,435	1,739	50	3.82	76	5.59	304	21.18
Nonfarm	327	339	358	435	12	3.67	19	5.60	77	21.51
Segment SR-3	1,636	1,693	1,793	2,174	62	3.8	95	5.6	381	21.2
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	1,636	1,698	1,793	2,174	62	3.8	95	5.6	381	21.2
Farm	1,309	1,359	1,435	1,739	50	3.8	76	5.6	304	21.2
Nonfarm	327	339	358	435	12	3.7	19	5.6	77	21.5
Marion County										
Total	16,174	17,338	18,161	21,190	624	3.73	823	4.75	3,029	16.68
Outside SRB	0	0	0	0	0	0.0	0	0.0	0	0.0
Inside SRB	16,174	17,338	18,161	21,190	624	3.73	823	4.75	3,029	16.68
Urban	5,528	6,006	6,572	8,654	478	8.65	566	9.42	2,082	31.68
Rural	11,186	11,332	11,589	12,536	146	1.31	257	2.27	947	18.17
Farm	5,396	5,467	5,591	6,047	71	1.32	124	2.27	456	8.16
Nonfarm	5,790	5,865	5,998	6,489	75	1.30	133	2.27	491	8.19
Segment SB-2	812	850	890	1,038	38	4.7	40	4.7	148	16.6
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	812	850	890	1,038	38	4.7	40	4.7	148	16.6
Farm	392	410	429	501	18	4.6	19	4.3	72	16.8
Nonfarm	420	440	461	537	20	4.8	21	4.8	76	16.5
Segment SB-3	8,866	9,189	9,625	11,231	323	3.6	436	4.7	1,606	16.7
Urban	5,528	6,006	6,572	8,654	478	8.6	566	9.4	2,082	31.7
Rural	3,338	3,183	3,053	2,577	-155	4.6	-130	4.1	-476	15.6
Farm	1,610	1,536	1,473	1,243	-74	4.6	-63	4.1	-230	15.6
Nonfarm	1,728	1,647	1,580	1,334	-81	4.7	-67	4.1	-246	15.6
Segment SB-4	501	520	545	636	19	3.8	25	4.8	91	16.7
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	501	520	545	636	19	3.8	25	4.8	91	16.7
Farm	242	251	263	307	9	3.7	12	4.8	44	16.7
Nonfarm	259	269	282	329	10	3.9	13	4.8	47	16.7
Segment SR-3	2,464	2,549	2,670	3,115	85	3.4	121	4.7	445	16.7
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	2,464	2,549	2,670	3,115	85	3.4	121	4.7	445	16.7
Farm	1,189	1,230	1,288	1,503	41	3.4	58	4.7	242	18.8
Nonfarm	1,275	1,319	1,382	1,612	44	3.5	63	4.8	230	16.6
Segment SR-4	2,801	2,913	3,051	3,560	112	4.0	138	4.7	509	16.7
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	2,801	2,913	3,051	3,560	112	4.0	138	4.7	509	16.7
Farm	1,351	1,405	1,472	1,717	54	4.0	67	4.8	245	16.6
Nonfarm	1,450	1,508	1,579	1,843	58	4.0	71	4.7	264	16.7
Segment SR-5	1,270	1,317	1,380	1,610	47	3.7	63	4.8	230	16.7
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	1,270	1,317	1,380	1,610	47	3.7	63	4.8	230	16.7
Farm	612	635	666	776	23	3.8	31	4.9	110	16.5
Nonfarm	658	682	714	834	24	3.6	32	4.7	120	16.8

Exhibit A-2t COUNTY AND SEGMENT POPULATION TRENDS AND PROJECTIONS, SALT RIVER BASIN 1970-1995 (CONT'D)

Area	Population at Year				Population Change Between Year					
	1970 ¹	1975 ²	1980 ²	1995 ³	1970-75		1975-80		1980-95	
					Number	%	Number	%	Number	%
Mercer County										
Total	15,960	16,950	18,089	22,529	990	6.20	1,150	6.78	4,442	24.54
Outside SRB	3,291	3,878	4,183	5,320	587	17.84	305	7.86	1,137	27.18
Inside SRB	12,669	13,072	13,906	17,209	403	3.18	834	6.38	3,098	23.75
Urban	6,741	7,422	8,216	11,314	681	10.10	794	10.70	3,098	37.71
Rural	5,928	5,650	5,690	5,895	-271	4.69	40	0.71	205	3.60
Farm	3,182	2,627	2,354	1,299	-555	17.44	-273	10.39	-1,055	44.82
Nonfarm	2,746	3,023	3,336	4,596	277	10.09	303	10.02	1,260	37.77
Segment SB-5	2,429	2,507	2,666	3,299	78	3.2	159	6.3	633	23.7
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	2,429	2,507	2,666	3,299	78	3.2	159	6.3	633	23.7
Farm	1,304	1,165	1,103	727	-139	10.7	-62	5.3	376	34.1
Nonfarm	1,125	1,342	1,563	2,572	217	19.3	221	16.5	1,009	64.6
Segment SS-16	460	475	505	625	15	3.3	30	5.9	120	23.8
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	460	475	505	625	15	3.3	30	5.9	120	23.8
Farm	247	221	209	138	-26	10.5	-12	5.4	-71	34.0
Nonfarm	213	254	296	487	41	19.2	42	16.5	191	64.5
Segment SS-17	9,780	10,090	10,735	13,285	310	3.2	645	6.4	2,550	23.8
Urban	6,741	7,422	8,216	11,314	681	10.1	794	10.7	3,098	37.7
Rural	3,039	2,668	2,519	1,971	-371	12.2	-149	5.6	-548	21.8
Farm	1,631	1,241	1,042	434	-204	12.5	-199	16.0	-608	58.3
Nonfarm	1,408	1,427	1,477	1,537	19	1.3	50	3.5	60	4.1
Nelson County										
Total	23,477	24,364	25,503	29,416	887	3.78	1,139	4.67	3,913	15.4
Outside SRB	0	0	0	0	0	0.0	0	0.0	0	0.0
Inside SRB	23,477	24,364	25,503	29,416	887	3.78	1,139	4.67	3,913	15.4
Urban	5,816	6,259	6,781	8,616	443	7.61	522	8.34	1,835	27.06
Rural	1,7661	18,105	18,722	20,800	444	2.51	617	3.41	2,078	11.10
Farm	5,825	5,367	4,922	3,266	-458	7.86	-445	8.29	-1,656	33.64
Nonfarm	11,836	12,738	13,800	17,534	902	7.62	1,062	8.34	3,734	27.06
Segment SB-1	9,913	10,281	10,762	12,411	368	3.7	481	4.7	1,469	15.3
Urban	5,816	6,259	6,781	8,616	443	7.6	522	8.3	1,835	27.1
Rural	4,097	4,022	3,981	3,795	-75	1.8	-41	1.0	-186	4.7
Farm	1,351	1,192	1,047	596	-159	11.8	-145	12.2	-451	4.3
Nonfarm	2,746	2,830	2,934	3,199	84	3.1	104	3.7	265	9.0
Segment SB-2	2,284	2,363	2,474	2,853	79	3.5	111	4.7	379	15.3
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	2,284	2,363	2,474	2,853	79	3.5	111	4.7	379	15.3
Farm	753	700	650	448	-53	7.0	-50	7.1	-202	31.1
Nonfarm	1,531	1,663	1,824	2,405	132	8.6	161	9.7	581	31.9
Segment SB-5	310	317	332	382	17	5.5	15	4.7	50	15.1
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	310	317	332	382	17	5.5	15	4.7	50	15.1
Farm	103	94	87	60	-9	8.7	-7	7.4	-27	31.0
Nonfarm	207	223	245	322	16	7.7	22	9.9	77	31.4
Segment SR-2	1,148	1,194	1,250	1,441	46	4.0	56	4.7	191	15.3
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	1,148	1,194	1,250	1,441	46	4.0	56	4.7	191	15.3
Farm	379	354	329	226	-25	6.6	-25	7.1	-103	31.3
Nonfarm	769	840	921	1,215	71	9.2	81	9.6	294	31.9
Segment SR-3	3,083	3,216	3,366	3,882	118	3.8	150	4.7	516	15.3
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	3,083	3,216	3,366	3,882	118	3.8	150	4.7	516	15.3
Farm	1,022	953	885	610	-69	6.8	-68	7.1	-275	31.1
Nonfarm	2,076	2,263	2,481	3,272	187	9.0	218	9.6	791	31.9

Exhibit A-2t COUNTY AND SEGMENT POPULATION TRENDS AND PROJECTIONS, SALT RIVER BASIN 1970-1995 (CONT'D)

Area	Population at Year				Population Change Between Year					
	1970 ¹	1975 ²	1980 ²	1995 ³	1970-75		1975-80		1980-95	
					Number	%	Number	%	Number	%
Nelson County (Cont'd)										
Segment SS-5	3,672	3,801	3,978	4,594	129	3.5	177	4.7	616	15.5
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	3,672	3,801	3,978	4,594	129	3.5	177	4.7	616	15.5
Farm	1,211	1,127	1,045	721	-84	6.9	-82	7.3	-324	31.0
Nonfarm	2,461	2,674	2,933	3,873	213	8.7	259	9.7	940	32.0
Segment SS-6	2,344	2,436	2,550	2,941	92	3.9	114	4.7	391	15.3
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	2,344	2,436	2,550	2,941	92	3.9	114	4.7	391	15.3
Farm	773	722	670	461	-51	6.6	-52	7.2	-209	31.2
Nonfarm	1,571	1,714	1,880	2,480	143	9.1	166	9.7	600	31.9
Segment SS-13	607	634	663	765	27	4.4	29	4.6	102	15.4
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	607	634	663	765	27	4.4	29	4.6	102	15.4
Farm	200	188	174	121	-12	6.0	-14	7.4	-53	30.5
Nonfarm	407	446	489	644	39	9.6	43	9.6	155	31.7
Segment SS-14	101	122	128	147	21	20.8	6	4.9	19	14.8
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	101	122	128	147	21	20.8	6	4.9	19	14.8
Farm	33	37	37	23	4	12.1	-2	5.4	-12	34.3
Nonfarm	68	85	93	124	17	25.0	8	9.4	31	33.3
Oldham County										
Total	14,687	16,428	18,606	27,847	1,741	11.85	2,178	13.26	9,241	49.67
Outside SRB	12,048	13,471	15,257	22,835	1,423	11.81	1,786	13.26	7,578	49.67
Inside SRB	2,639	2,957	3,349	5,012	312	11.82	398	13.49	1,663	49.66
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	2,639	2,957	3,349	5,012	312	11.82	398	13.49	1,663	49.66
Farm	554	554	554	554	0	0.0	0	0.0	0	0.0
Nonfarm	2,085	2,403	2,795	4,458	318	15.25	392	16.31	1,663	59.50
Segment SF-4	2,639	2,957	3,349	5,012	318	12.1	392	13.3	1,663	49.7
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	2,639	2,957	3,349	5,012	318	12.1	392	13.3	1,663	49.7
Farm	554	554	554	554	0	0.0	0	0.0	0	0.0
Nonfarm	2,085	2,403	2,795	4,458	318	15.3	392	16.3	1,663	59.5
Shelby County										
Total	18,999	19,892	20,973	25,216	893	4.70	1,081	5.43	4,243	20.23
Outside SRB	2,398	2,509	2,648	3,225	111	4.63	139	5.54	577	21.79
Inside SRB	16,601	17,383	18,325	21,991	782	4.71	942	5.42	3,666	20.00
Urban	4,182	4,874	5,662	8,700	692	16.55	788	16.17	3,038	53.66
Rural	12,419	12,509	12,663	13,291	90	0.72	154	1.23	628	4.96
Farm	5,650	5,650	5,650	5,650	0	0.0	0	0.0	0	0.0
Nonfarm	6,769	6,859	7,013	7,641	90	1.33	154	2.24	628	8.95
Segment SF-3	681	712	751	902	31	4.6	39	5.5	151	20.1
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	681	712	751	901	31	4.6	39	5.5	151	20.1
Farm	309	322	335	383	13	4.2	13	4.0	103	24.8
Nonfarm	372	390	416	519	18	4.8	26	6.7	103	24.8
Segment SF-4	432	452	477	572	20	4.6	25	5.5	95	19.9
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	432	452	477	572	20	4.6	25	5.5	95	19.9
Farm	196	204	213	243	8	4.1	9	4.4	30	14.1
Nonfarm	236	248	264	329	12	5.1	16	6.5	65	24.6
Segment SS-8	332	348	367	440	16	4.8	19	5.5	73	19.9
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	332	348	367	440	16	4.8	19	5.5	73	19.9
Farm	151	157	164	187	6	4.0	7	4.5	23	14.0
Nonfarm	181	191	203	253	10	5.5	12	6.3	50	24.6

Exhibit A-2t COUNTY AND SEGMENT POPULATION TRENDS AND PROJECTIONS, SALT RIVER BASIN 1970-1995 (CONT'D)

Area	Population at Year				Population Change Between Year					
	1970 ¹	1975 ²	1980 ²	1995 ³	1970-75		1975-80		1980-95	
					Number	%	Number	%	Number	%
Shelby County (Cont'd)										
Segment SS-9	2,009	2,103	2,217	2,661	94	4.7	114	5.4	444	20.0
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	2,009	2,103	2,217	2,661	94	4.7	114	5.4	444	20.0
Farm	914	950	989	1,131	36	3.9	39	4.1	142	14.4
Nonfarm	1,095	1,153	1,228	1,530	58	5.3	75	6.5	302	24.6
Segment SS-10	432	450	476	572	18	4.2	26	5.8	96	20.2
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	432	450	476	572	18	4.2	26	5.8	96	20.2
Farm	197	203	212	243	6	3.0	9	4.4	31	14.6
Nonfarm	235	247	264	329	12	5.1	17	6.9	65	24.6
Segment SS-11	8,184	8,570	9,034	10,841	386	4.7	464	5.4	1,807	20.0
Urban	4,182	4,874	5,662	8,700	692	16.6	788	16.2	3,038	53.7
Rural	4,002	3,696	3,372	2,141	-306	7.7	-324	8.8	-1,231	36.5
Farm	1,821	1,669	1,505	910	-152	8.3	-164	9.8	-595	39.5
Nonfarm	2,181	2,027	1,867	1,231	-154	7.1	-160	7.9	-636	34.1
Segment SS-12	3,486	3,650	3,848	4,618	164	4.7	198	5.4	770	20.0
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	3,486	3,650	3,848	4,618	164	4.7	198	5.4	770	20.0
Farm	1,586	1,649	1,717	1,963	63	4.0	68	4.1	246	14.3
Nonfarm	1,900	2,001	2,131	2,655	101	5.3	130	6.5	524	24.6
Segment SS-13	1,013	1,061	1,118	1,341	48	4.7	57	5.4	223	19.9
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	1,013	1,061	1,118	1,341	48	4.7	57	5.4	223	19.9
Farm	461	479	499	570	18	3.9	20	4.2	71	14.2
Nonfarm	552	582	619	771	30	5.4	37	6.4	152	24.6
Segment SS-14	32	37	37	44	5	15.6	0	0.0	7	18.9
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	32	37	37	44	5	15.6	0	0.0	7	18.9
Farm	15	17	16	20	2	13.3	1	5.9	4	25.0
Nonfarm	17	20	21	24	3	17.6	1	5.0	3	14.3
Spencer County										
Total	5,488	6,198	7,103	11,274	710	12.94	905	14.60	4,171	58.72
Outside SRB	0	0	0	0	0	0.0	0	0.0	0	0.0
Inside SRB	5,488	6,198	7,103	11,274	710	12.94	905	14.60	4,171	58.72
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	5,488	6,198	7,103	11,274	710	12.94	905	14.60	4,171	58.72
Farm	2,632	2,632	2,632	2,632	0	0.0	0	0.0	0	0.0
Nonfarm	2,856	3,566	4,471	8,642	710	24.86	905	25.38	4,171	93.29
Segment SS-1	25	31	36	56	6	24.0	5	16.1	20	55.6
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	25	31	36	56	6	24.0	5	16.1	20	55.6
Farm	12	13	13	13	1	8.3	0	0.0	0	0.0
Nonfarm	13	18	23	43	5	38.5	5	27.8	20	87.0
Segment SS-4	253	285	327	519	32	12.6	42	14.7	192	58.7
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	253	285	327	519	32	12.6	42	14.7	192	58.7
Farm	121	121	121	121	0	0.0	0	0.0	0	0.0
Nonfarm	132	164	206	398	32	24.2	42	25.6	192	93.2
Segment SS-5	330	372	426	676	42	12.7	54	14.5	250	58.7
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	330	372	426	676	42	12.7	54	14.5	250	58.7
Farm	158	158	158	158	0	0.0	0	0.0	0	0.0
Nonfarm	172	214	268	518	42	24.4	54	25.2	250	93.3

Exhibit A-2t COUNTY AND SEGMENT POPULATION TRENDS AND PROJECTIONS, SALT RIVER BASIN 1970-1995 (CONT'D)

Area	Population at Year				Population Change Between Year					
	1970 ¹	1975 ²	1980 ²	1995 ³	1970-75		1975-80		1980-95	
					Number	%	Number	%	Number	%
Spencer County (Cont'd)										
Segment SS-6	469	533	611	970	64	13.6	78	14.6	359	58.8
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	469	533	611	970	64	13.6	78	14.6	359	58.8
Farm	225	226	226	226	1	0.4	0	0.0	0	0.0
Nonfarm	244	307	385	744	63	25.8	78	25.4	359	93.2
Segment SS-7	732	824	945	1,499	92	12.6	121	14.7	554	58.6
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	732	824	945	1,499	92	12.6	121	14.7	554	58.6
Farm	351	350	350	350	-1	0.3	0	0.0	0	0.0
Nonfarm	381	474	595	1,149	93	24.4	121	25.5	554	93.1
Segment SS-8	540	607	696	1,105	67	12.4	89	14.7	409	58.8
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	540	607	696	1,105	67	12.4	89	14.7	409	58.8
Farm	259	258	258	258	-1	0.4	0	0.0	0	0.0
Nonfarm	281	349	438	847	68	24.2	89	25.5	409	93.4
Segment SS-12	1,625	1,835	2,102	3,337	210	12.9	267	14.6	1,235	58.8
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	1,625	1,835	2,102	3,337	210	12.9	267	14.6	1,235	58.8
Farm	779	779	780	779	0	0.0	0	0.0	0	0.0
Nonfarm	846	1,056	1,322	2,558	210	24.8	266	25.2	1,234	93.3
Segment SS-13	1,514	1,711	1,960	3,112	197	13.0	249	15.6	1,152	58.8
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	1,514	1,711	1,960	3,112	197	13.0	249	15.6	1,152	58.8
Farm	727	727	726	727	0	0.0	-1	0.1	1	0.1
Nonfarm	787	984	1,234	2,385	197	25.0	250	25.4	1,151	93.3
Washington County										
Total	10,728	11,021	11,407	12,469	293	2.73	386	3.50	1,062	9.31
Outside SRB	0	0	0	0	0	0.0	0	0.0	0	0.0
Inside SRB	10,728	11,021	11,407	12,469	293	2.73	386	3.50	1,062	9.31
Urban	2,961	3,151	3,375	4,064	190	6.42	224	7.11	689	20.41
Rural	7,767	7,870	8,032	8,405	103	1.33	162	2.06	373	4.64
Farm	5,493	5,493	5,493	5,493	0	0.0	0	0.0	0	0.0
Nonfarm	2,274	2,377	2,539	2,912	103	4.53	162	6.82	373	14.69
Segment SB-2	3,698	3,791	3,924	4,289	93	2.5	133	3.5	365	9.3
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	3,698	3,791	3,924	4,289	93	2.5	133	3.5	365	9.3
Farm	2,615	2,646	2,684	2,803	31	1.2	38	1.4	119	4.4
Nonfarm	1,083	1,145	1,240	1,486	62	5.7	95	8.3	246	16.6
Segment SB-3	375	386	399	436	11	2.9	13	3.4	37	9.3
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	375	386	399	436	11	2.9	13	3.4	37	9.3
Farm	265	269	273	285	4	1.5	4	1.5	12	4.4
Nonfarm	110	117	126	151	7	6.4	9	7.7	25	19.8
Segment SB-4	4,734	4,871	5,042	5,511	137	2.9	171	3.5	469	9.3
Urban	2,961	3,151	3,375	4,064	190	6.4	224	7.1	689	20.4
Rural	1,773	1,720	1,667	1,447	-53	3.0	-53	3.1	-220	13.2
Farm	1,254	1,201	1,140	946	-53	4.2	-61	5.1	-194	17.0
Nonfarm	519	519	527	501	0	0.0	8	1.5	-26	4.9
Segment SB-5	1,921	1,973	2,042	2,233	52	2.7	69	3.5	191	9.4
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	1,921	1,973	2,042	2,233	52	2.7	69	3.5	191	9.4
Farm	1,359	1,377	1,396	1,459	18	1.3	19	1.4	63	4.5
Nonfarm	562	596	646	774	34	6.0	50	8.3	128	19.8

Exhibit A-3t HOUSING UNIT TRENDS AND PROJECTIONS - SALT RIVER BASIN 1970-1995

Area	Housing Units at Year				Housing Unit Changes Between Year					
					1970-75		1975-80		1980-95	
	1970	1975	1980	1995	Number	%	Number	%	Number	%
Fifteen County										
Total	308,711	331,801	354,887	444,392	23,090	7.5	23,086	7.0	89,505	25.2
Outside SRB	204,984	214,686	224,197	271,092	9,702	4.7	9,511	4.4	46,895	20.9
Inside SRB	103,727	117,115	130,690	173,300	13,388	12.9	13,575	11.6	42,610	32.6
Urban	64,764	76,286	88,385	128,738	11,522	17.8	12,099	15.9	40,353	45.7
Rural	38,963	40,829	42,305	44,562	1,866	4.8	1,476	3.6	2,257	5.3
Farm	13,267	13,459	13,868	12,387	192	1.4	409	3.0	-1,481	-10.7
Nonfarm	25,696	27,370	28,437	32,175	1,674	6.5	1,067	3.9	3,783	13.1
Anderson County										
Total	3,284	3,474	3,664	4,319	190	5.8	190	5.5	655	17.9
Outside SRB	530	500	469	529	-30	-5.7	-31	-6.2	60	12.8
Inside SRB	2,754	2,974	3,195	3,790	220	8.0	221	7.4	595	36.8
Urban	1,326	1,470	1,615	2,287	144	10.8	145	9.9	672	41.6
Rural	1,428	1,504	1,580	1,503	76	5.3	76	5.1	-77	-4.9
Farm	824	744	760	461	-80	-9.7	16	2.2	-299	-39.3
Nonfarm	604	760	820	1,042	156	25.8	60	7.9	222	27.1
Segment SB-5	366	396	447	530	30	8.2	51	12.9	83	18.6
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	366	396	447	530	30	8.2	51	12.9	83	18.6
Farm	212	196	215	163	-16	-7.5	19	9.7	-52	-24.2
Nonfarm	154	200	232	367	46	29.9	32	16.0	135	58.2
Segment SS-14	563	609	688	815	46	8.2	79	13.0	127	18.4
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	563	609	688	815	46	8.2	79	13.0	127	18.4
Farm	325	301	333	250	-24	-7.4	30	10.0	-81	-24.5
Nonfarm	238	308	357	565	70	29.4	49	15.9	208	58.3
Segment SS-15	1,756	1,895	1,977	2,346	139	7.9	82	4.3	369	18.7
Urban	1,326	1,470	1,615	2,287	144	10.9	145	10.1	672	41.6
Rural	430	425	362	59	-5	-1.2	-63	14.8	-303	-83.7
Farm	248	210	174	18	-38	-15.3	-36	-17.1	-156	-89.6
Nonfarm	182	215	188	41	33	18.1	-27	-12.6	-147	-78.2
Segment SS-16	69	74	83	99	5	7.2	9	12.2	16	19.3
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	69	74	83	99	5	7.2	9	12.2	16	19.3
Farm	39	37	40	30	-2	-5.1	3	8.1	-10	-25.0
Nonfarm	30	37	43	69	7	23.3	6	16.2	26	60.5
Boyle County										
Total	7,267	7,606	7,944	8,308	339	4.7	338	4.4	364	4.6
Outside SRB	5,828	5,961	6,094	6,414	133	2.3	133	2.2	320	5.2
Inside SRB	1,439	1,645	1,850	1,894	206	14.3	205	12.5	44	2.4
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	1,439	1,645	1,850	1,894	206	14.3	205	12.5	44	2.4
Farm	425	458	546	559	33	7.8	88	19.2	13	2.4
Nonfarm	1,014	1,187	1,304	1,335	173	17.1	117	9.8	31	2.4
Segment SB-5	407	466	524	536	69	17.0	58	12.4	12	2.3
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	407	466	524	536	69	17.0	58	12.4	12	2.3
Farm	120	130	155	158	10	8.3	25	19.2	3	1.9
Nonfarm	287	336	369	378	49	17.1	33	10.2	2	2.4
Segment SB-6	547	625	702	720	78	14.2	77	12.3	18	2.6
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	547	625	702	720	78	14.2	77	12.3	18	2.6
Farm	162	174	207	212	12	7.4	33	19.0	5	2.4
Nonfarm	385	451	495	508	66	17.1	44	9.8	13	2.6

Exhibit A-3t HOUSING UNIT TRENDS AND PROJECTIONS - SALT RIVER BASIN 1970-1995 (CONT'D)

Area	Housing Units at Year				Housing Unit Changes Between Year					
					1970-75		1975-80		1980-95	
	1970	1975	1980	1995	Number	%	Number	%	Number	%
Boyle County (Cont'd)										
Segment SR-5	358	410	461	471	52	14.5	51	12.4	10	2.2
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	358	410	461	471	52	14.5	51	12.4	10	2.2
Farm	106	114	136	139	8	7.5	22	19.3	3	2.2
Nonfarm	252	296	325	332	44	17.5	29	9.8	7	2.2
Segment SS-18	127	144	163	167	17	13.4	19	13.2	4	2.4
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	127	144	163	167	17	13.4	19	13.2	4	2.4
Farm	37	40	48	50	3	8.1	8	20.0	2	4.2
Nonfarm	90	104	115	117	14	15.6	11	10.6	2	1.7
Bullitt County										
Total	7,732	9,474	11,216	21,755	1,742	22.5	1,742	18.4	10,539	94.0
Outside SRB	0	0	0	0	0	0.0	0	0.0	0	0.0
Inside SRB	7,732	9,474	11,216	21,755	1,742	22.5	1,742	18.4	10,539	94.0
Urban	898	2,613	4,328	17,543	1,715	191.0	1,715	25.0	13,215	305.3
Rural	6,834	6,861	6,888	4,212	27	0.4	27	0.4	-2,676	-38.9
Farm	980	1,001	988	604	21	2.1	-13	-1.3	-384	-38.9
Nonfarm	5,854	5,860	5,900	3,608	6	0.1	40	0.9	-2,292	-38.8
Segment SF-1	3,474	3,561	3,494	9,650	87	2.5	-67	1.9	6,156	176.2
Urban	0	884	1,140	7,424	884	-	256	29.0	6,284	551.2
Rural	3,474	2,677	2,354	2,226	-797	-22.9	-323	-12.1	-128	-5.4
Farm	498	391	338	319	93	18.7	-43	-11.0	-19	-5.6
Nonfarm	2,976	2,286	2,016	1,907	-690	-	-270	-	-109	-
Segment SP-2	642	764	942	1,828	122	19.0	178	23.3	886	94.1
Urban	0	0	0	1,828	0	0.0	0	0.0	1,828	-
Rural	642	764	942	0	122	19.0	178	23.3	-942	-100.0
Farm	92	111	135	0	19	20.6	24	21.6	-135	-100.0
Nonfarm	550	653	807	0	103	18.7	154	23.6	-807	-100.0
Segment SR-1	776	928	1,144	1,144	152	19.6	216	23.3	0	0.0
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	776	928	1,144	1,144	152	19.6	216	23.3	0	0.0
Farm	111	135	164	164	24	21.6	29	21.5	0	0.0
Nonfarm	665	793	980	980	128	19.2	187	23.6	0	0.0
Segment SR-2	72	82	101	142	10	13.9	19	23.2	41	40.6
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	72	82	101	142	10	13.9	19	23.2	41	40.6
Farm	10	12	15	20	2	20.0	3	25.0	5	33.3
Nonfarm	62	70	86	122	8	12.9	16	22.9	36	41.9
Segment SS-2	1,553	2,701	3,763	6,187	1,148	73.9	1,062	39.3	3,424	64.4
Urban	898	1,729	3,188	6,187	831	92.5	1,459	84.4	2,999	94.1
Rural	655	972	575	0	317	48.4	-397	-40.8	-575	-100.0
Farm	94	142	82	0	48	51.1	-60	-42.2	-82	-100.0
Nonfarm	561	830	493	0	269	48.0	-337	-40.6	-493	-100.0
Segment SS-3	438	519	639	681	71	16.2	120	23.1	42	6.6
Urban	0	0	0	0	0	0.0	0	0.0	619	-
Rural	438	519	639	62	71	16.2	120	23.1	-577	-90.3
Farm	63	76	92	9	13	20.6	16	21.1	-83	-90.2
Nonfarm	375	443	547	53	68	18.1	104	23.5	-494	-90.3
Segment SS-4	697	827	1,020	1,980	130	18.6	193	23.3	960	94.1
Urban	0	0	0	1,485	0	0.0	0	0.0	1,485	-
Rural	697	827	1,020	495	130	18.6	193	23.3	-525	-51.5
Farm	100	121	146	71	21	21.0	65	53.7	-75	-51.4
Nonfarm	597	706	874	424	109	18.3	168	23.8	-450	-51.5

Exhibit A-3t HOUSING UNIT TRENDS AND PROJECTIONS - SALT RIVER BASIN 1970-1995 (CONT'D)

Area	Housing Units at Year				Housing Unit Changes Between Year					
					1970-75		1975-80		1980-95	
	1970	1975	1980	1995	Number	%	Number	%	Number	%
Bullitt County (Cont'd)										
Segment SS-5	80	92	113	143	12	15.0	21	22.8	30	26.5
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	80	92	113	143	12	15.0	21	22.8	30	26.5
Farm	12	13	16	21	1	8.3	3	23.1	5	31.2
Nonfarm	68	79	97	122	11	16.2	18	22.8	25	25.8
Casey County										
Total	4,550	4,549	4,548	4,313	-1	-0.02	-1	-0.02	-235	-5.2
Outside SRB	4,290	4,268	4,246	4,027	-22	-0.5	-22	-0.5	-219	-5.2
Inside SRB	260	281	302	286	21	8.1	21	7.5	-16	-5.3
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	260	281	302	286	21	8.1	21	7.5	-16	-5.3
Farm	260	281	302	286	21	8.1	21	7.5	-16	-5.3
Nonfarm	0	0	0	0	0	0.0	0	0.0	0	0.0
Segment SR-R	260	281	302	286	21	8.1	21	7.5	-16	-5.3
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	260	281	302	286	21	8.1	21	7.5	-16	-5.3
Farm	260	281	302	286	21	8.1	21	7.5	-16	-5.3
Nonfarm	0	0	0	0	0	0.0	0	0.0	0	0.0
Hardin County										
Total	18,388	19,704	21,019	24,778	1,316	7.2	1,315	6.7	3,759	17.9
Outside SRB	8,440	9,013	9,614	11,333	573	6.8	601	6.7	1,719	17.9
Inside SRB	9,948	10,691	11,405	15,445	743	7.5	714	6.7	2,040	17.9
Urban	8,692	9,341	9,965	11,747	649	7.5	624	6.7	1,782	17.9
Rural	1,256	1,350	1,440	1,698	94	7.5	90	6.7	258	17.9
Farm	372	379	404	476	7	1.9	25	6.6	72	17.8
Nonfarm	884	971	1,036	1,222	87	9.8	65	6.7	186	18.0
Segment SM-1	5,595	7,217	7,699	9,076	1,622	29.0	482	6.7	1,377	17.8
Urban	5,595	7,217	7,699	9,076	1,622	29.0	482	6.7	1,377	17.8
Rural	0	0	0	0	0	0.0	0	0.0	0	0.0
Farm	0	0	0	0	0	0.0	0	0.0	0	0.0
Nonfarm	0	0	0	0	0	0.0	0	0.0	0	0.0
Segment SM-2	3,905	2,993	3,193	3,764	-912	23.4	200	6.7	571	17.9
Urban	3,097	2,124	2,266	2,671	-973	-31.4	142	6.7	405	17.9
Rural	808	869	927	1,093	61	153.3	58	6.7	166	17.9
Farm	239	244	260	306	5	2.1	16	6.6	46	17.7
Nonfarm	569	625	667	787	56	9.8	42	6.7	120	18.0
Segment SR-1	70	75	80	94	5	7.1	5	6.7	14	17.5
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	70	75	80	94	5	7.1	5	6.7	14	17.5
Farm	21	21	22	26	0	0.0	1	4.8	4	18.2
Nonfarm	49	54	58	68	5	10.2	4	7.4	10	17.2
Segment SR-2	378	406	433	511	28	7.4	27	6.7	78	18.0
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	378	406	433	511	28	7.4	27	6.7	78	18.0
Farm	112	114	122	144	2	1.8	8	7.0	22	18.0
Nonfarm	266	292	311	367	36	13.5	19	6.5	56	18.0
Segment SS-1	0	0	0	0	0	0.0	0	0.0	0	0.0
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	0	0	0	0	0	0.0	0	0.0	0	0.0
Farm	0	0	0	0	0	0.0	0	0.0	0	0.0
Nonfarm	0	0	0	0	0	0.0	0	0.0	0	0.0

Exhibit A-3t HOUSING UNIT TRENDS AND PROJECTIONS - SALT RIVER BASIN 1970-1995 (CONT'D)

Area	Housing Units at Year				Housing Unit Changes Between Year					
	1970	1975	1980	1995	1970-75		1975-80		1980-95	
					Number	%	Number	%	Number	%
Henry County										
Total	3,927	4,096	4,264	5,244	169	4.3	168	4.1	980	23.0
Outside SRB	2,822	2,953	3,083	3,791	131	4.6	130	4.4	708	23.0
Inside SRB	1,105	1,143	1,181	1,453	38	3.4	38	3.3	272	23.0
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	1,105	1,143	1,181	1,453	38	3.4	38	3.3	272	23.0
Farm	249	280	311	303	31	12.4	31	11.1	72	23.2
Nonfarm	856	863	870	1,070	7	0.8	7	0.8	200	23.0
Segment SF-4	72	76	79	96	4	5.6	3	3.9	17	21.5
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	72	76	79	96	4	5.6	3	3.9	17	21.5
Farm	16	18	21	25	2	12.5	3	16.7	4	19.0
Nonfarm	56	58	58	71	2	3.8	0	0.0	13	22.4
Segment SS-9	887	916	947	1,165	29	3.3	31	3.4	218	23.0
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	887	916	947	1,165	29	3.3	31	3.4	218	23.0
Farm	200	225	249	307	25	12.5	24	10.7	58	23.3
Nonfarm	687	691	698	858	14	2.0	7	1.0	160	22.9
Segment SS-11	146	151	155	192	5	3.4	4	2.6	37	23.9
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	146	151	155	192	5	3.4	4	2.6	37	23.9
Farm	33	37	41	51	4	12.1	5	13.5	10	24.4
Nonfarm	113	114	114	141	1	0.9	0	0.0	27	23.7
Jefferson County										
Total	226,493	244,049	261,604	325,009	17,556	7.8	17,555	7.2	63,405	24.2
Outside SRB	174,458	182,664	190,909	231,864	8,206	4.7	8,245	4.5	40,955	21.5
Inside SRB	52,035	61,385	70,695	93,145	9,350	18.6	9,310	15.2	22,450	31.8
Urban	45,072	53,723	62,975	84,188	8,651	19.2	9,252	17.2	21,213	33.7
Rural	6,963	7,662	7,720	8,957	679	10.0	58	0.8	1,237	16.0
Farm	1,657	1,668	1,492	1,367	11	0.7	-176	-10.6	-125	-8.4
Nonfarm	5,306	5,994	6,228	7,590	688	12.0	234	3.9	1,362	21.9
Segment SF-1	3,923	4,446	4,764	5,551	523	13.3	318	7.2	787	16.5
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	3,923	4,446	4,764	5,551	523	13.3	318	7.2	787	16.5
Farm	934	968	921	847	34	3.6	-47	-4.9	-74	-8.0
Nonfarm	2,989	3,478	3,843	4,704	489	16.4	365	10.5	861	22.4
Segment SF-2	3,742	5,170	6,645	10,332	1,428	38.2	1,475	28.5	3,687	55.5
Urban	3,129	4,878	6,272	10,220	1,749	55.9	1,394	28.8	3,948	62.9
Rural	613	292	373	112	-321	18.3	81	27.8	-261	-70.0
Farm	146	64	72	17	82	56.2	8	12.5	-55	-76.4
Nonfarm	467	228	301	95	239	51.2	73	32.0	-206	-68.4
Segment SF-3	4,022	5,411	6,596	9,836	1,389	34.5	1,185	21.9	3,240	49.0
Urban	1,595	2,487	4,013	6,542	892	55.9	1,526	61.4	2,529	63.0
Rural	2,427	2,924	2,583	3,294	497	20.5	-341	-11.7	711	27.5
Farm	577	636	499	503	59	10.2	-137	-21.5	4	0.8
Nonfarm	1,850	2,288	2,084	2,791	498	23.7	-204	-8.9	707	33.9
Segment SP-2	40,348	46,358	52,690	67,426	6,010	14.9	6,332	13.7	14,736	28.0
Urban	40,348	46,358	52,690	67,426	6,010	14.9	6,332	13.7	14,736	28.0
Rural	0	0	0	0	0	0.0	0	0.0	0	0.0
Farm	0	0	0	0	0	0.0	0	0.0	0	0.0
Nonfarm	0	0	0	0	0	0.0	0	0.0	0	0.0

Exhibit A-3t HOUSING UNIT TRENDS AND PROJECTIONS - SALT RIVER BASIN 1970-1995 (CONT'D)

Area	Housing Units at Year				Housing Unit Changes Between Year					
					1970-75		1975-80		1980-95	
	1970	1975	1980	1995	Number	%	Number	%	Number	%
Larue County										
Total	3,641	3,761	3,881	4,705	120	3.3	120	3.2	824	21.2
Outside SRB	3,115	3,201	3,287	3,985	86	2.8	86	2.7	698	21.2
Inside SRB	526	560	594	720	34	6.5	34	6.1	126	21.2
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	526	560	594	720	34	6.5	34	6.1	126	21.2
Farm	409	442	475	576	33	8.1	33	7.5	101	21.3
Nonfarm	117	118	119	144	1	0.9	1	0.8	25	21.0
Segment SR-3	526	560	594	720	34	6.5	34	6.1	126	21.2
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	526	560	594	720	34	6.5	34	6.1	126	21.2
Farm	409	442	475	576	33	8.1	33	7.5	101	21.3
Nonfarm	117	118	119	144	1	0.8	1	0.8	25	21.0
Marion County										
Total	4,767	4,927	5,087	5,936	160	3.4	160	3.2	894	16.7
Outside SRB	0	0	0	0	0	0.0	0	0.0	0	0.0
Inside SRB	4,767	4,927	5,087	5,936	160	3.4	160	3.2	894	16.7
Urban	1,746	1,793	1,841	2,424	47	2.7	48	2.7	583	31.7
Rural	3,021	3,134	3,246	3,512	113	3.7	112	3.6	266	8.2
Farm	1,373	1,470	1,566	1,694	97	7.1	96	6.5	128	8.2
Nonfarm	1,648	1,664	1,680	1,818	16	1.0	16	1.0	138	8.2
Segment SB-2	219	235	249	291	16	7.3	14	6.0	42	16.9
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	219	235	249	291	16	7.3	14	6.0	42	16.9
Farm	99	110	120	140	11	11.1	10	9.1	20	16.7
Nonfarm	120	125	129	151	5	4.2	4	3.2	22	17.1
Segment SB-3	2,647	2,673	2,696	3,146	26	1.0	23	0.9	450	16.7
Urban	1,746	1,793	1,841	2,424	47	2.7	48	2.7	583	21.7
Rural	901	880	855	722	-21	-2.3	-25	-2.8	-133	15.6
Farm	409	413	413	348	4	1.0	0	0.0	-65	-15.7
Nonfarm	492	467	442	374	-25	5.1	-25	-5.4	-68	-15.4
Segment SB-4	135	144	153	178	9	6.7	9	6.2	25	16.3
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	135	144	153	178	9	6.7	9	6.2	25	16.3
Farm	62	67	74	86	5	8.1	7	10.4	12	15.2
Nonfarm	73	77	79	92	4	5.5	2	2.6	13	16.5
Segment SR-3	667	705	748	873	38	5.7	43	6.1	125	16.7
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	667	705	748	873	38	5.7	43	6.1	125	16.7
Farm	303	331	361	421	28	9.2	30	9.1	60	16.6
Nonfarm	364	374	387	452	10	2.7	13	3.5	65	16.8
Segment SR-4	756	806	855	997	50	6.6	49	6.1	142	16.6
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	756	806	855	997	50	6.6	49	6.1	142	16.6
Farm	344	378	412	481	34	9.9	34	9.0	69	16.7
Nonfarm	412	428	443	516	16	3.9	15	3.5	73	16.5
Segment SR-5	343	364	386	451	21	6.1	22	6.0	65	16.8
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	343	364	386	451	21	6.1	22	6.0	65	16.8
Farm	156	171	186	218	15	9.6	15	8.8	32	17.2
Nonfarm	187	193	200	283	6	3.2	7	3.6	33	16.5

Exhibit A-3t HOUSING UNIT TRENDS AND PROJECTIONS - SALT RIVER BASIN 1970-1995 (CONT'D)

Area	Housing Units at Year				Housing Unit Changes Between Year					
					1970-75		1975-80		1980-95	
	1970	1975	1980	1995	Number	%	Number	%	Number	%
Mercer County										
Total	6,099	6,214	6,329	7,882	115	1.9	115	1.8	1,553	24.5
Outside SRB	1,258	1,379	1,463	1,860	121	9.6	84	6.1	397	27.1
Inside SRB	4,841	4,835	4,866	6,022	-6	-0.1	31	0.6	1,156	23.8
Urban	2,593	2,733	2,873	3,956	140	5.4	140	5.1	983	34.2
Rural	2,248	2,102	1,992	2,066	-146	-6.5	-109	-5.2	73	3.7
Farm	1,207	893	823	454	-314	-26.0	-70	-7.8	-369	-44.8
Nonfarm	1,041	1,209	1,170	1,612	168	16.1	-39	-3.2	442	37.8
Segment SB-5	921	933	934	1,156	12	1.3	1	0.1	222	23.8
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	921	933	934	1,156	12	1.3	1	0.1	222	23.8
Farm	495	397	386	254	-98	19.8	-11	-2.8	-132	-34.2
Nonfarm	426	536	548	902	110	25.8	12	2.2	354	64.6
Segment SS-16	174	177	177	219	3	1.7	0	0.0	42	23.7
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	174	177	177	219	3	1.7	0	0.0	42	23.7
Farm	93	75	73	48	-18	-19.4	-2	-2.7	-25	-34.2
Nonfarm	81	102	104	171	21	25.9	2	2.0	67	64.4
Segment SS-17	3,746	3,725	3,755	4,647	-21	-0.6	30	0.8	892	23.8
Urban	2,596	2,733	2,893	3,956	140	5.4	140	5.1	1,083	37.7
Rural	1,153	992	882	691	-161	-14.0	-110	-11.1	-191	-21.7
Farm	619	421	364	152	198	-32.0	-57	-13.5	-212	-58.2
Nonfarm	534	571	518	539	37	6.9	-53	-9.3	21	4.1
Nelson County										
Total	6,742	7,025	7,307	8,429	283	4.2	282	4.0	1,122	15.4
Outside SRB	0	0	0	0	0	0.0	0	0.0	0	0.0
Inside SRB	6,742	7,025	7,307	8,429	283	4.2	282	4.0	1,122	15.4
Urban	1,833	1,855	1,877	2,469	22	1.2	22	1.2	592	31.5
Rural	4,909	5,170	5,430	5,960	261	5.3	260	5.0	530	9.8
Farm	1,426	1,518	1,609	936	92	6.5	91	6.0	-637	-41.8
Nonfarm	3,483	3,652	3,821	5,024	169	4.8	169	4.6	1,203	31.5
Segment SB-1	2,972	3,004	3,032	3,557	32	1.1	28	0.9	525	17.3
Urban	1,833	1,855	1,877	2,469	20	1.1	20	1.1	592	24.0
Rural	1,139	1,149	1,155	1,088	10	8.8	6	0.5	-67	-5.8
Farm	331	337	342	171	6	1.8	5	1.5	-171	-50.0
Nonfarm	808	812	813	917	4	0.5	1	0.1	104	12.8
Segment SB-2	635	675	718	817	40	6.3	43	6.4	99	13.8
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	635	675	718	817	40	6.3	43	6.4	99	13.8
Farm	184	198	213	128	14	9.3	15	7.6	85	-39.9
Nonfarm	151	479	505	689	328	217.2	26	5.4	184	36.4
Segment SB-5	86	91	96	110	5	5.8	5	5.5	41	14.6
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	86	91	96	110	5	5.8	5	5.5	41	14.6
Farm	25	27	29	17	2	8.0	2	7.4	-12	41.4
Nonfarm	61	64	67	93	3	4.9	3	4.7	26	38.8
Segment SR-2	319	341	363	413	22	6.9	22	6.4	50	13.8
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	319	341	363	413	22	6.9	22	6.4	50	13.8
Farm	93	100	108	65	7	7.5	8	8.0	-43	-39.8
Nonfarm	226	241	255	348	15	6.6	14	5.8	93	36.5
Segment SR-3	861	918	976	1,112	57	6.6	58	6.3	136	13.9
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	861	918	976	1,112	57	6.6	58	6.3	136	19.9
Farm	250	270	289	175	20	8.0	19	7.0	-114	-39.4
Nonfarm	611	648	687	937	37	6.1	39	6.0	250	36.4

Exhibit A-3t HOUSING UNIT TRENDS AND PROJECTIONS - SALT RIVER BASIN 1970-1995 (CONT'D)

Area	Housing Units at Year				Housing Unit Changes Between Year					
					1970-75		1975-80		1980-85	
	1970	1975	1980	1995	Number	%	Number	%	Number	%
Nelson County (Cont'd)										
Segment SS-5	1,021	1,085	1,153	1,317	64	6.3	68	6.3	164	14.2
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	1,021	1,085	1,153	1,317	64	6.3	68	6.3	164	14.2
Farm	297	319	342	207	22	7.4	23	7.2	-135	-39.5
Nonfarm	724	766	811	1,110	42	5.8	45	5.9	299	36.9
Segment SS-6	651	696	740	842	45	6.9	44	6.3	102	13.8
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	651	696	740	842	45	6.9	44	6.3	102	13.8
Farm	189	204	219	132	15	7.9	15	7.4	-87	-39.7
Nonfarm	462	492	521	710	30	6.5	29	5.9	189	36.3
Segment SS-13	169	181	192	219	12	7.1	11	6.1	27	14.1
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	169	181	192	219	12	7.1	11	6.1	27	14.1
Farm	49	53	57	34	4	8.2	4	7.5	-23	-40.4
Nonfarm	120	128	135	185	8	6.7	7	5.5	50	37.0
Segment SS-14	28	34	37	42	6	21.4	3	8.8	5	13.5
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	28	34	37	42	6	21.4	3	8.8	5	13.5
Farm	8	10	7	2	2	25.0	0	0.0	-3	-30.0
Nonfarm	20	24	27	35	4	20.0	3	12.5	8	29.6
Oldham County										
Total	4,248	4,790	5,331	7,979	542	12.8	541	11.3	2,648	49.7
Outside SRB	3,479	3,929	4,161	6,228	450	12.9	232	5.9	2,067	49.7
Inside SRB	769	861	1,170	1,751	92	12.0	309	35.9	581	49.7
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	769	861	1,170	1,751	92	12.0	309	35.9	581	49.7
Farm	154	161	194	194	7	4.5	33	20.5	0	0.0
Nonfarm	615	700	976	1,557	85	13.8	276	39.4	581	59.5
Segment SF-4	769	861	1,170	1,751	92	12.0	309	35.9	581	49.7
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	769	861	1,170	1,751	92	12.0	309	35.9	581	49.7
Farm	154	161	194	194	7	4.5	33	20.5	0	0.0
Nonfarm	615	700	976	1,557	85	13.8	276	39.4	581	59.5
Shelby County										
Total	6,450	6,675	6,899	8,295	225	34.9	224	3.4	1,396	20.2
Outside SRB	764	818	871	1,061	54	7.1	53	6.5	190	21.8
Inside SRB	5,686	5,857	6,028	7,234	171	3.0	171	2.9	1,206	20.0
Urban	1,649	1,756	1,863	2,862	107	6.5	107	6.1	999	53.6
Rural	4,037	4,101	4,165	4,372	64	1.6	64	1.6	207	11.1
Farm	1,662	1,760	1,858	1,858	98	5.9	98	5.6	0	0.0
Nonfarm	2,375	2,341	2,307	2,514	-34	-1.4	-34	-1.5	207	9.0
Segment SF-3	221	233	247	297	12	5.4	14	6.0	50	20.2
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	221	233	247	297	12	5.4	14	6.0	50	20.2
Farm	90	100	110	126	10	11.1	10	10.0	16	14.5
Nonfarm	131	133	137	171	2	1.5	4	3.0	34	24.8
Segment SF-4	140	148	157	188	8	5.7	9	6.1	11	7.0
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	140	148	157	188	8	5.7	9	6.1	11	7.0
Farm	58	64	70	80	6	10.3	6	9.4	10	14.3
Nonfarm	82	84	87	108	2	2.4	3	3.6	21	24.1
Segment SS-8	108	114	121	144	6	5.6	7	6.1	23	19.0
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	108	114	121	144	6	5.6	7	6.1	23	19.0
Farm	44	49	54	61	5	11.4	5	10.2	7	13.0
Nonfarm	64	65	67	83	1	1.6	2	3.1	16	23.9

Exhibit A-3t HOUSING UNIT TRENDS AND PROJECTIONS - SALT RIVER BASIN 1970-1995 (CONT'D)

Area	Housing Units at Year				Housing Unit Changes Between Year					
					1970-75		1975-80		1980-85	
	1970	1975	1980	1995	Number	%	Number	%	Number	%
Shelby County (Cont'd)										
Segment SS-9	653	689	729	875	36	5.5	40	5.8	146	20.0
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	653	689	729	875	36	5.5	40	5.8	146	20.0
Farm	269	296	325	372	30	11.1	29	9.8	47	14.5
Nonfarm	384	393	404	503	9	2.3	11	2.8	99	24.5
Segment SS-10	140	148	157	188	8	5.7	9	6.1	31	19.7
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	140	148	157	188	8	5.7	9	6.1	31	19.7
Farm	58	63	70	80	5	8.6	7	11.1	10	14.3
Nonfarm	82	85	87	108	3	4.8	2	2.4	21	24.1
Segment SS-11	2,950	2,968	2,972	3,566	18	0.6	4	0.1	594	20.0
Urban	1,649	1,756	1,863	2,862	107	6.5	107	6.1	999	53.6
Rural	1,301	1,212	1,109	704	-89	-6.8	-103	-8.5	-405	-36.5
Farm	536	520	495	299	-16	-3.0	-25	-4.8	-196	-39.6
Nonfarm	765	692	614	405	-73	-9.5	-78	-11.3	-209	-34.0
Segment SS-12	1,133	1,197	1,266	1,519	64	5.6	69	5.8	253	20.0
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	1,133	1,197	1,266	1,519	64	5.6	69	5.8	253	20.0
Farm	466	514	565	646	44	9.4	51	9.9	81	14.3
Nonfarm	667	683	701	873	16	2.4	18	2.6	172	24.5
Segment SS-13	330	349	368	442	19	5.8	19	5.4	74	20.1
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	330	349	368	442	19	5.8	19	5.4	74	20.1
Farm	136	150	164	187	14	10.3	14	9.3	23	14.0
Nonfarm	196	199	204	255	5	2.6	5	2.5	51	25.0
Segment SS-14	11	11	11	15	0	0.0	0	0.0	4	36.4
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	11	11	11	15	0	0.0	0	0.0	4	36.4
Farm	5	5	5	7	0	0.0	0	0.0	2	28.8
Nonfarm	6	6	6	8	0	0.0	0	0.0	2	25.0
Spencer County										
Total	1,790	2,019	2,248	3,568	229	12.8	229	11.3	1,320	58.7
Outside SRB	0	0	0	0	0	0	0	0	0	0
Inside SRB	1,790	2,019	2,248	3,568	229	12.8	229	11.3	1,320	58.7
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	1,790	2,019	2,248	3,568	229	12.8	229	11.3	1,320	58.7
Farm	737	785	833	833	48	6.5	48	6.1	0	0.0
Nonfarm	1,053	1,234	1,415	2,735	181	17.2	181	14.7	1,320	93.3
Segment SF-1	8	10	11	18	2	25.0	1	10.0	7	63.6
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	8	10	11	18	2	25.0	1	10.0	7	63.6
Farm	3	4	4	4	1	33.3	0	0.0	0	0.0
Nonfarm	5	6	7	14	1	20.0	1	16.7	7	100.0
Segment SS-4	83	93	103	164	10	12.1	10	10.7	61	59.2
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	83	92	103	164	10	12.1	10	10.7	61	59.2
Farm	34	36	38	38	2	5.9	2	5.6	0	0.0
Nonfarm	49	57	65	126	8	16.3	8	14.0	61	93.8
Segment SS-5	107	121	135	214	14	13.1	14	11.6	79	58.5
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	107	121	135	214	14	13.1	14	11.6	79	58.5
Farm	44	47	50	50	3	6.8	3	6.4	0	0.0
Nonfarm	63	74	85	164	11	17.5	11	14.9	79	92.9

Exhibit A-3t HOUSING UNIT TRENDS AND PROJECTIONS - SALT RIVER BASIN 1970-1995 (CONT'D)

Area	Housing Units at Year				Housing Unit Changes Between Year					
					1970-75		1975-80		1980-95	
	1970	1975	1980	1995	Number	%	Number	%	Number	%
Spencer County (Cont'd)										
Segment SS-6	153	174	193	307	21	13.7	19	10.9	114	59.1
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	153	174	193	307	21	13.7	19	10.9	114	59.1
Farm	62	68	72	72	5	7.9	4	5.9	0	0.0
Nonfarm	90	106	121	235	16	17.8	15	14.2	114	94.2
Segment SS-7	239	268	299	474	29	12.1	31	11.6	175	58.5
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	239	268	299	474	29	12.1	31	11.6	175	58.5
Farm	98	104	111	111	6	6.1	7	6.7	0	0.0
Nonfarm	141	164	188	363	23	16.3	24	14.6	175	93.1
Segment SS-8	176	198	220	350	22	12.5	22	11.1	130	59.1
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	176	198	220	350	22	12.5	22	11.1	130	59.1
Farm	72	77	82	82	5	6.9	5	6.5	0	0.0
Nonfarm	104	121	138	268	17	16.3	17	14.1	130	94.2
Segment SS-12	530	598	665	1,065	68	12.8	67	11.2	400	60.2
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	530	598	665	1,065	68	12.8	67	11.2	400	60.2
Farm	219	232	247	246	13	5.9	15	6.5	-1	-0.4
Nonfarm	311	366	418	810	55	17.7	52	14.2	392	93.8
Segment SS-13	494	557	622	985	63	12.8	65	11.7	363	58.4
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	494	557	622	985	63	12.8	65	11.7	363	58.4
Farm	204	217	229	230	13	6.4	12	5.5	1	0.4
Nonfarm	290	340	393	755	50	17.2	53	15.6	362	92.1
Washington County										
Total	3,333	3,438	3,546	3,872	105	3.2	108	3.1	326	9.5
Outside SRB	0	0	0	0	0	0.0	0	0.0	0	0.0
Inside SRB	3,333	3,438	3,546	3,872	105	3.2	108	3.1	326	9.5
Urban	955	1,002	1,048	1,262	47	4.9	46	4.6	214	20.4
Rural	2,378	2,436	2,498	2,610	58	2.4	62	2.5	112	4.5
Farm	1,532	1,619	1,707	1,706	87	5.7	88	5.4	-1	-0.1
Nonfarm	846	817	791	904	-29	-3.4	-26	-3.2	113	14.3
Segment SB-2	1,132	1,173	1,219	1,332	41	3.6	46	3.9	113	9.3
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	1,132	1,173	1,219	1,332	41	3.6	46	3.9	113	9.3
Farm	729	780	833	871	51	7.0	53	6.8	38	4.6
Nonfarm	403	393	386	461	-10	-2.5	-7	-1.8	75	19.4
Segment SB-3	115	120	127	135	5	4.3	7	5.8	8	6.3
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	115	120	127	135	5	4.3	7	5.8	8	6.3
Farm	74	79	85	88	5	6.8	6	7.6	3	3.5
Nonfarm	41	41	42	47	0	0.0	1	2.4	5	11.9
Segment SB-4	1,498	1,535	1,566	1,711	37	2.5	31	2.0	145	9.3
Urban	955	1,002	1,048	1,262	47	4.9	46	4.6	214	20.4
Rural	543	533	518	449	-10	-1.8	-15	-2.8	-69	-13.3
Farm	350	354	355	294	4	1.1	1	0.3	-61	-17.2
Nonfarm	193	179	163	155	-14	-7.2	-16	-8.9	-8	-4.9
Segment SB-5	588	610	634	694	22	3.7	24	3.9	60	9.5
Urban	0	0	0	0	0	0.0	0	0.0	0	0.0
Rural	588	610	634	694	22	3.7	24	3.9	60	9.5
Farm	379	406	434	453	27	7.1	28	6.9	19	4.4
Nonfarm	209	204	200	241	-5	-2.4	-4	-2.0	41	-20.5

Exhibit A-4.1t NON-AGRICULTURAL EMPLOYMENT TRENDS - SALT RIVER BASIN 1970-1995

Employment Category	Non-Agricultural Employment at Year				Employment Changes Between Year					
					1970-75		1975-80		1980-95	
	1970	1975	1980	1995	Number	%	Number	%	Number	%
Fifteen County Total	344,401	414,050	620,128	600,443	69,649	20.22	206,078	49.77	19,685	3.17
Manufacturing Total	114,310	133,646	153,744	180,254	19,336	16.92	20,098	15.04	26,510	17.24
Food & Kindred	14,278	19,759	21,936	28,557	5,481	38.39	2,177	11.02	6,621	30.18
Tobacco	10,930	12,469	26,430	15,419	1,539	14.08	13,961	111.97	-11,011	41.66
Clothing, Textile, Leather	4,875	6,658	8,029	9,629	1,783	36.57	1,371	20.59	1,600	19.93
Lumber and Furniture	4,573	6,776	6,445	7,308	2,203	48.67	-331	4.88	863	13.39
Print., Publish., Paper	10,295	12,572	14,605	17,264	2,277	22.12	2,033	16.17	2,659	18.21
Chem., Petrol., Coal, Rubber	9,483	10,891	12,376	13,905	1,408	14.85	1,485	13.64	1,529	12.35
Stone, Glass, Clay	3,131	3,838	4,509	5,233	707	22.58	671	17.48	724	16.06
Primary Metals	2,348	2,959	3,608	4,425	611	26.02	649	21.93	817	22.64
Mach., Metal Prod., & Equip.	49,497	57,748	65,498	73,999	8,251	16.67	7,750	13.42	8,501	12.98
Other Manufacturing	2,576	3,104	3,838	4,422	528	20.50	734	23.65	584	15.25
Non-Manufacturing Total	232,202	280,457	329,215	427,688	48,255	20.78	48,758	17.39	98,473	29.91
Mining & Quarrying	771	991	1,164	1,841	220	28.54	173	17.46	677	58.16
Construction	15,700	20,191	20,684	27,338	4,491	28.61	493	2.44	6,654	32.17
Trans., Comm., Util., & R.R.	23,595	26,701	29,132	33,898	3,106	13.16	2,431	9.10	4,766	16.36
Wholesale-Retail Trade	75,718	88,094	104,681	127,320	12,376	16.34	16,587	18.83	22,639	21.63
Finance, Insur., Real Estate	16,989	20,355	23,163	28,937	3,366	19.81	2,808	13.80	5,774	24.93
Services	49,144	58,784	76,287	96,164	9,640	19.62	17,503	29.78	19,877	26.06
Government	50,258	65,377	73,639	108,762	15,119	30.08	8,262	12.64	35,123	47.70
Anderson County Total	2,076	2,709	3,300	4,204	633	30.5	500	15.4	904	21.5
Manufacturing Total	788	1,079	1,350	1,664	291	36.9	271	20.0	314	18.8
Food & Kindred	337	450	562	649	113	33.5	112	19.9	87	13.4
Tobacco	0	0	0	0	0	0.0	0	0.0	0	0.0
Clothing, Textile, Leather	0	0	0	0	0	0.0	0	0.0	0	0.0
Lumber and Furniture	0	0	0	0	0	0.0	0	0.0	0	0.0
Print., Publish., Paper	11	13	16	21	2	18.2	3	18.7	5	23.8
Chem., Petrol., Coal, Rubber	0	0	0	0	0	0.0	0	0.0	0	0.0
Stone, Glass, Clay	263	350	437	540	87	33.1	87	19.9	100	19.0
Primary Metals	0	0	0	0	0	0.0	0	0.0	0	0.0
Mach., Metal Prod., & Equip.	0	0	0	0	0	0.0	0	0.0	0	0.0
Other Manufacturing	177	236	295	364	59	33.3	59	20.0	69	18.9
Non-Manufacturing Total	1,288	1,630	1,950	2,540	342	26.6	320	16.4	590	23.2
Mining & Quarrying	12	16	19	27	4	33.3	3	15.7	8	24.6
Construction	26	35	41	52	9	31.0	6	14.6	11	21.1
Trans., Comm., Util., & R.R.	86	104	122	152	18	20.9	18	14.7	30	19.7
Wholesale-Retail Trade	287	375	449	526	88	30.7	74	16.4	77	14.6
Finance, Insur., Real Estate	46	55	67	97	9	19.6	12	17.9	30	30.9
Services	158	222	277	431	64	40.5	55	19.8	154	35.7
Government	673	823	975	1,255	150	22.3	152	15.5	280	22.3
Boyle County Total	7,944	10,161	12,413	15,904	2,217	27.9	2,252	18.1	3,491	31.9
Manufacturing Total	2,920	3,883	4,857	5,990	963	33.0	974	20.0	1,133	18.9
Food & Kindred	106	140	175	216	36	34.0	35	20.0	41	18.9
Tobacco	26	35	43	53	9	34.6	8	18.6	10	18.8
Clothing, Textile, Leather	1,091	1,461	1,827	2,253	370	33.9	366	20.0	426	18.9
Lumber and Furniture	199	270	336	415	71	35.7	66	19.6	79	19.0
Print., Publish., Paper	627	841	1,052	1,298	241	34.1	211	20.0	246	18.9
Chem., Petrol., Coal, Rubber	5	7	9	10	2	40.0	2	28.6	1	10.0
Stone, Clay, Glass	593	788	985	1,214	195	32.9	197	20.0	229	18.9
Primary Metals	0	0	0	0	0	0.0	0	0.0	0	0.0
Mach., Metal Prod., & Equip.	273	351	440	542	78	28.6	89	20.2	102	18.8
Other Manufacturing	0	0	0	0	0	0.0	0	0.0	0	0.0
Non-Manufacturing Total	5,024	6,278	7,556	9,914	1,254	25.0	1,278	16.9	2,358	23.7
Mining & Quarrying	27	35	43	60	8	29.6	8	22.8	17	28.3
Construction	316	381	450	580	65	20.6	69	15.3	130	22.4
Trans., Comm., Util., & R.R.	814	986	1,160	1,434	172	21.1	174	15.0	274	19.1
Wholesale-Retail Trade	1,595	1,986	2,382	2,790	391	24.5	396	16.6	408	14.6
Finance, Insur., Real Estate	208	267	324	476	59	28.4	57	17.6	152	31.9
Services	1,042	1,388	1,735	2,691	346	33.2	347	20.0	956	50.7
Government	1,022	1,235	1,462	1,883	213	20.8	227	15.5	421	22.3

Exhibit A-4.1t NON-AGRICULTURAL EMPLOYMENT TRENDS - SALT RIVER BASIN 1970-1995 (CONT'D)

Employment Category	Non-Agricultural Employment at Year				Employment Changes Between Year					
	1970	1975	1980	1995	1970-75		1975-80		1980-95	
					Number	%	Number	%	Number	%
Bullitt County Total	2,594	8,882	151,129	39,962	6,288	242.4	6,287	70.8	19,793	130.5
Manufacturing Total	812	2,780	5,151	10,943	1,968	242.4	1,968	70.8	6,195	130.5
Food & Kindred	634	2,093	3,877	8,237	1,459	230.1	1,481	70.7	4,663	130.5
Tobacco	0	0	0	0	0	0.0	0	0.0	0	0.0
Clothing, Textile, Leather	0	0	0	0	0	0.0	0	0.0	0	0.0
Lumber & Furniture	4	12	23	49	200	33.3	9	75.0	28	130.3
Print., Publish., Paper	121	399	739	1,570	278	229.8	282	70.7	889	130.5
Chem., Petrol., Coal, Rubber	0	0	0	0	0	0.0	0	0.0	0	0.0
Stone, Clay, Glass	0	0	0	0	0	0.0	0	0.0	0	0.0
Primary Metals	0	0	0	0	0	0.0	0	0.0	0	0.0
Mach., Metal Prod., & Equip.	53	276	512	1,087	223	420.8	196	71.0	615	130.3
Other Manufacturing	0	0	0	0	0	0.0	0	0.0	0	0.0
Non-Manufacturing Total	1,782	6,102	10,018	24,019	4,320	242.4	4,301	70.5	13,598	130.5
Mining & Quarrying	47	161	260	633	114	242.6	114	70.8	358	130.2
Construction	55	188	281	741	133	241.8	134	71.3	419	130.2
Trans., Comm., Util., & R.R.	160	548	872	2,157	388	242.5	388	70.8	1,221	130.5
Wholesale-Retail Trade	396	1,356	2,369	5,339	960	242.4	960	70.8	3,023	130.5
Finance, Insur., Real Estate	65	223	375	878	158	243.1	158	70.9	497	130.5
Services	165	565	1,099	2,224	400	242.4	400	70.8	1,259	130.5
Government	894	3,061	4,762	12,047	2,167	242.4	2,166	70.7	6,820	130.5
Casey County Total	1,827	2,324	3,342	3,596	497	27.20	1,018	43.80	254	7.60
Manufacturing Total	718	1,008	1,297	1,633	290	40.39	288	28.57	336	25.91
Food & Kindred	0	0	0	0	0	0.0	0	0.0	0	0.0
Tobacco	0	0	0	0	0	0.0	0	0.0	0	0.0
Clothing, Textile, Leather	395	562	725	911	167	42.28	162	29.00	186	25.66
Lumber and Furniture	323	451	581	731	128	39.63	130	28.82	150	28.82
Print., Publish., Paper	0	0	0	0	0	0.0	0	0.0	0	0.0
Chem., Petrol., Coal, Rubber	0	0	0	0	0	0.0	0	0.0	0	0.0
Stone, Glass, Clay	0	0	0	0	0	0.0	0	0.0	0	0.0
Primary Metals	0	0	0	0	0	0.0	0	0.0	0	0.0
Mach., Metal Prod., & Equip.	0	0	0	0	0	0.0	0	0.0	0	0.0
Other Manufacturing	0	0	0	0	0	0.0	0	0.0	0	0.0
Non-Manufacturing Total	1,109	1,316	2,045	1,963	207	18.67	729	55.40	-82	4.01
Mining & Quarrying	35	47	59	84	12	34.29	12	25.53	25	42.37
Construction	71	95	118	159	24	33.80	23	24.21	41	34.75
Trans., Comm., Util., & R.R.	66	66	65	65	0	0.0	-1	1.51	0	0.0
Wholesale-Retail Trade	350	414	477	541	64	18.29	63	15.22	64	13.42
Finance, Insur., Real Estate	25	33	40	59	8	32.00	7	21.21	19	47.50
Services	103	137	170	259	34	33.01	33	24.09	89	52.35
Government	459	555	651	827	96	20.92	96	17.30	176	27.04
Hardin County Total	12,197	14,377	16,371	23,777	2,180	17.9	1,994	13.9	7,406	45.2
Manufacturing Total	2,143	2,688	3,193	4,075	545	25.4	505	18.8	882	27.6
Food & Kindred	188	240	284	362	52	27.7	440	18.3	78	27.46
Tobacco	0	0	0	0	0	0.0	0	0.0	0	0.0
Clothing, Textile, Leather	281	319	379	483	38	13.5	60	18.8	104	27.4
Lumber and Furniture	3	76	91	116	73	243.3	15	19.7	25	27.5
Print., Publish., Paper	76	129	153	195	53	69.7	24	18.6	42	27.5
Chem., Petrol., Coal, Rubber	732	758	901	1,150	26	3.5	143	18.9	249	27.6
Stone, Glass, Clay	53	54	64	82	1	1.9	10	18.5	18	28.1
Primary Metals	0	0	0	0	0	0.0	0	0.0	0	0.0
Mach., Metal Prod., & Equip.	614	995	1,182	1,509	381	62.1	187	18.8	327	27.7
Other Manufacturing	196	117	139	178	-79	-40.3	22	18.8	39	28.1
Non-Manufacturing Total	10,054	11,689	13,178	19,702	1,635	16.3	1,489	12.7	6,524	49.5
Mining & Quarrying	39	46	51	77	7	18.0	5	10.9	26	51.0
Construction	327	380	428	640	53	16.2	48	12.6	212	49.5
Trans., Comm., Util., & R.R.	636	740	834	1,247	104	16.4	94	12.7	413	49.5
Wholesale-Retail Trade	2,891	3,361	3,789	5,664	470	16.3	428	12.7	1,875	49.5
Finance, Insur., Real Estate	536	623	702	1,050	87	16.2	79	12.7	348	49.6
Services	1,225	1,424	1,605	2,400	199	16.2	181	12.7	795	49.5
Government	4,400	5,115	5,769	8,624	715	16.3	654	12.8	2,855	49.5

Exhibit A-4.1t NON-AGRICULTURAL EMPLOYMENT TRENDS - SALT RIVER BASIN 1970-1995 (CONT'D)

Employment Category	Non-Agricultural Employment at Year				Employment Changes Between Year					
					1970-75		1975-80		1980-95	
	1970	1975	1980	1995	Number	%	Number	%	Number	%
Henry County Total	1,720	3,115	4,510	5,545	1,395	81.1	1,455	46.7	975	21.3
Manufacturing Total	417	755	1,211	1,344	338	81.1	338	44.8	251	23.0
Food & Kindred	7	11	18	19	4	57.1	5	45.5	3	18.8
Tobacco	0	0	0	0	0	0.0	0	0.0	0	0.0
Clothing, Textile, Leather	35	54	86	96	19	54.3	24	44.4	18	23.1
Lumber and Furniture	0	40	64	72	40	-	18	45.0	14	24.1
Print., Publish., Paper	12	19	31	34	7	58.3	9	47.4	6	21.4
Chem., Petrol., Coal, Rubber	0	32	51	57	32	-	14	43.8	11	23.9
Stone, Glass, Clay	0	6	10	11	6	-	3	50.0	2	22.2
Primary Metals	34	86	137	153	52	60.5	38	44.2	29	23.4
Mach., Metal Prod., & Equip.	13	20	32	35	7	53.9	9	45.0	6	17.1
Other Manufacturing	316	487	782	867	171	54.1	218	44.8	162	23.0
Non-Manufacturing Total	1,303	2,360	3,299	4,201	1,003	77.0	1,057	44.8	784	22.9
Mining & Quarrying	0	0	0	0	0	0.0	0	0.0	0	0.0
Construction	29	53	66	94	24	82.8	23	43.4	18	23.7
Trans., Comm., Util., & R.R.	50	91	122	161	41	82.0	40	44.0	30	22.9
Wholesale-Retail Trade	337	610	904	1,086	273	81.0	274	44.9	202	22.9
Finance, Insur., Real Estate	83	150	215	268	67	80.7	68	45.3	50	22.9
Services	121	219	360	390	98	81.0	98	44.7	73	23.0
Government	683	1,237	1,632	2,202	554	81.1	554	44.8	411	22.9
Jefferson County Total	286,737	329,088	371,384	437,003	67,654	23.6	55,592	15.7	27,020	6.6
Manufacturing Total	96,197	109,614	122,241	134,671	13,467	14.0	13,443	12.3	11,564	9.4
Food & Kindred	11,458	13,255	14,559	16,039	1,603	14.0	1,601	12.3	1,377	9.4
Tobacco	10,597	12,079	13,471	14,841	1,488	14.0	1,481	12.3	6,275	9.4
Clothing, Textile, Leather	1,575	1,798	2,005	2,209	223	14.8	221	12.3	190	9.4
Lumber and Furniture	3,716	4,231	4,719	5,198	517	13.9	519	12.3	446	9.4
Print., Publish., Paper	8,677	9,887	11,026	12,147	1,215	14.0	1,212	12.3	1,043	9.4
Chem., Petrol., Coal, Rubber	8,487	9,668	10,782	11,878	1,185	14.0	1,186	12.3	1,020	9.4
Stone, Clay, Glass	1,897	2,159	2,408	2,653	263	13.9	265	12.3	228	9.4
Primary Metals	1,843	2,105	2,347	2,586	263	14.3	258	12.3	222	9.4
Mach., Metal Prod., & Equip.	46,592	53,086	59,202	65,221	6,518	14.0	6,511	21.3	5,600	9.4
Other Manufacturing	1,355	1,546	1,722	1,899	190	14.0	191	12.4	163	9.4
Non-Manufacturing Total	190,540	219,474	249,143	302,332	54,187	28.4	42,149	17.2	15,456	5.4
Mining & Quarrying	437	437	414	437	0	0.0	0	0.0	0	0.0
Construction	13,675	17,370	17,167	21,676	5,697	41.2	2,283	11.8	21	0.1
Trans., Comm., Util., & R.R.	20,319	22,035	23,223	24,635	4,256	20.9	2,512	10.2	-2,634	-9.7
Wholesale-Retail Trade	63,361	70,355	81,412	92,923	15,105	23.8	12,564	16.0	1,893	2.1
Finance, Insur., Real Estate	15,093	17,589	19,546	23,246	4,523	30.0	3,156	16.1	474	2.1
Services	43,009	49,984	64,388	78,220	12,738	29.6	11,738	21.1	10,735	15.9
Government	34,646	41,704	42,993	61,195	11,868	34.3	9,714	20.9	4,967	8.8
Larue County Total	1,559	2,122	2,730	4,300	563	36.1	608	28.7	1,570	57.5
Manufacturing Total	304	451	613	831	147	48.4	198	43.9	218	35.6
Food & Kindred	53	73	99	134	20	37.7	26	35.6	35	35.4
Tobacco	0	0	0	0	0	0.0	0	0.0	0	0.0
Clothing, Textile, Leather	212	334	454	616	122	57.5	120	35.9	162	35.7
Lumber and Furniture	25	29	40	54	4	16.0	11	37.9	14	35.0
Print., Publish., Paper	5	5	7	9	0	0.0	2	40.0	2	28.6
Chem., Petrol., Coal, Rubber	0	0	0	0	0	0.0	0	0.0	0	0.0
Stone, Glass, Clay	9	10	13	18	1	11.1	3	30.0	5	38.5
Primary Metals	0	0	0	0	0	0.0	0	0.0	0	0.0
Mach., Metal Prod., & Equip.	0	0	0	0	0	0.0	0	0.0	0	0.0
Other Manufacturing	0	0	0	0	0	0.0	0	0.0	0	0.0
Non-Manufacturing Total	1,255	1,671	2,117	3,469	416	33.1	446	26.7	1,352	63.9
Mining & Quarrying	0	0	0	0	0	0.0	0	0.0	0	0.0
Construction	59	79	99	163	20	33.9	20	25.3	64	64.6
Trans., Comm., Util., & R.R.	64	85	108	177	21	32.8	23	27.1	69	63.9
Wholesale-Retail Trade	291	388	491	804	97	33.3	103	26.5	313	63.7
Finance, Insur., Real Estate	70	93	118	194	23	32.9	25	26.9	76	64.4
Services	141	188	238	390	47	33.3	50	26.6	152	63.9
Government	630	838	1,063	1,741	208	33.0	225	36.8	678	63.8

Exhibit A-4.1t NON-AGRICULTURAL EMPLOYMENT TRENDS - SALT RIVER BASIN 1970-1995 (CONT'D)

Employment Category	Non-Agricultural Employment at Year				Employment Changes Between Year					
					1970-75		1975-80		1980-95	
	1970	1975	1980	1995	Number	%	Number	%	Number	%
Oldham County Total	2,377	4,466	6,560	10,903	2,092	88.0	2,091	46.8	4,343	66.2
Manufacturing Total	558	1,049	1,677	2,559	491	88.0	491	46.8	1,019	66.2
Food & Kindred	38	66	106	161	28	73.7	31	47.0	64	65.0
Tobacco	0	0	0	0	0	0.0	0	0.0	0	0.0
Clothing, Textile, Leather	0	0	0	0	0	0.0	0	0.0	0	0.0
Lumber and Furniture	0	0	0	0	0	0.0	0	0.0	0	0.0
Print., Publish., Paper	6	10	16	24	4	66.7	5	50.0	9	60.0
Chem., Petrol., Coal, Rubber	0	60	96	146	60	-	22	36.7	58	65.9
Stone, Glass, Clay	8	13	21	32	5	62.5	6	46.2	13	68.4
Primary Metals	170	292	466	712	122	71.8	136	46.6	284	66.4
Mach., Metal Prod., & Equip.	336	605	967	1,476	269	80.1	283	46.8	588	66.2
Other Manufacturing	0	3	5	8	3	-	2	66.7	3	60.0
Non-Manufacturing Total	1,819	3,420	4,883	8,344	1,601	88.0	1,600	46.8	3,324	66.2
Mining & Quarrying	22	42	58	101	20	90.9	19	45.2	40	65.6
Construction	130	244	314	596	114	87.7	115	47.1	237	66.0
Trans., Comm., Util., & R.R.	63	118	162	289	55	87.3	56	47.5	115	66.1
Wholesale-Retail Trade	404	760	1,140	1,854	356	88.1	355	46.7	739	66.3
Finance, Insur., Real Estate	84	158	229	385	74	88.1	74	46.8	153	65.9
Services	278	523	873	1,276	245	88.1	244	46.7	509	66.4
Government	838	1,575	2,107	3,843	737	87.9	737	46.8	153	66.2
Shelby County Total	4,500	6,350	8,200	9,373	1,850	41.1	1,850	29.1	1,173	14.3
Manufacturing Total	1,097	1,598	2,034	2,285	451	41.1	451	29.1	286	14.3
Food & Kindred	125	177	221	248	52	41.6	40	22.6	31	14.3
Tobacco	37	52	64	72	15	40.5	11	21.2	9	14.3
Clothing, Textile, Leather	105	148	185	208	43	41.0	34	23.0	26	14.3
Lumber and Furniture	0	0	0	0	0	0.0	0	0.0	0	0.0
Print., Publish., Paper	211	298	439	492	87	41.2	133	44.6	61	14.2
Chem., Petrol., Coal, Rubber	37	52	99	111	15	40.5	45	86.5	14	14.4
Stone, Glass, Clay	78	110	137	155	32	41.0	25	22.7	20	14.8
Primary Metals	63	89	112	126	26	41.3	21	23.6	16	14.5
Mach., Metal Prod., & Equip.	441	623	777	873	182	41.3	141	22.6	109	14.3
Other Manufacturing	0	0	0	0	0	0.0	0	0.0	0	0.0
Non-Manufacturing Total	3,403	4,802	6,166	7,088	1,399	41.1	1,399	29.1	887	14.3
Mining & Quarrying	2	3	3	4	1	50.0	0	0.0	1	33.3
Construction	63	89	101	131	26	41.3	26	29.2	16	13.9
Trans., Comm., Util., & R.R.	265	374	450	552	109	41.1	109	29.1	69	14.3
Wholesale-Retail Trade	1,300	1,834	2,423	2,708	534	41.1	535	29.2	339	14.3
Finance, Insur., Real Estate	153	216	275	319	63	41.2	63	29.2	40	14.3
Services	541	763	1,123	1,127	222	41.0	223	29.2	141	14.3
Government	1,079	1,523	1,791	2,247	444	41.1	443	29.1	281	14.3
Spencer County Total	457	1,459	2,460	4,443	1,002	219.3	1,001	68.6	1,983	80.6
Manufacturing Total	29	93	238	282	64	220.7	63	67.7	126	80.8
Food & Kindred	19	61	156	185	42	221.1	41	67.2	83	81.4
Tobacco	0	0	0	0	0	0.0	0	0.0	0	0.0
Clothing, Textile, Leather	0	0	0	0	0	0.0	0	0.0	0	0.0
Lumber and Furniture	0	0	0	0	0	0.0	0	0.0	0	0.0
Print., Publish., Paper	3	10	24	29	7	233.3	6	60.0	13	81.3
Chem., Petrol., Coal, Rubber	0	0	0	0	0	0.0	0	0.0	0	0.0
Stone, Glass, Clay	0	0	0	0	0	0.0	0	0.0	0	0.0
Primary Metals	0	0	0	0	0	0.0	0	0.0	0	0.0
Mach., Metal Prod., & Equip.	7	22	58	68	15	124.3	16	72.7	30	78.9
Other Manufacturing	0	0	0	0	0	0.0	0	0.0	0	0.0
Non-Manufacturing Total	428	1,366	2,222	4,161	938	219.2	938	68.7	1,857	80.6
Mining & Quarrying	0	0	0	0	0	0.0	0	0.0	0	0.0
Construction	0	0	0	0	0	0.0	0	0.0	0	0.0
Trans., Comm., Util., & R.R.	25	80	126	243	55	220.0	55	68.8	108	80.0
Wholesale-Retail Trade	134	428	737	1,303	294	219.4	293	68.5	582	80.7
Finance, Insur., Real Estate	21	67	111	204	46	219.0	46	68.7	9	80.5
Services	26	83	159	253	57	219.2	57	68.7	113	80.7
Government	222	708	1,089	2,158	486	218.9	487	68.8	963	80.6

Exhibit A-4.1t NON-AGRICULTURAL EMPLOYMENT TRENDS - SALT RIVER BASIN 1970-1995 (CONT'D)

Employment Category	Non-Agricultural Employment at Year				Employment Changes Between Year					
	1970	1975	1980	1995	1970-75		1975-80		1980-95	
					Number	%	Number	%	Number	%
Marion County Total	2,738	3,603	4,522	6,812	865	31.6	918	25.5	2,290	50.6
Manufacturing Total	924	1,230	1,541	1,864	306	33.1	311	25.3	323	21.0
Food & Kindred	50	77	97	117	27	54.0	20	26.0	20	20.6
Tobacco	27	32	40	48	5	18.5	8	25.0	8	20.0
Clothing, Textile, Leather	236	334	419	507	98	41.5	85	25.4	88	21.0
Lumber and Furniture	240	283	356	431	43	17.9	73	25.8	75	21.1
Print., Publish., Paper	10	10	11	13	0	0.0	1	10.0	2	18.2
Chem., Petrol., Coal, Rubber	0	4	5	6	4	0.0	1	25.0	1	20.0
Stone, Clay, Glass	0	10	12	15	10	0.0	2	20.0	3	25.0
Primary Metals	0	0	0	0	0	0.0	0	0.0	0	0.0
Mach., Metal Prod., & Equip.	361	480	601	727	119	33.0	121	25.2	126	21.0
Other Manufacturing	0	0	0	0	0	0.0	0	0.0	0	0.0
Non-Manufacturing Total	1,814	2,373	2,981	4,948	559	30.8	608	25.6	1,967	65.9
Mining & Quarrying	24	31	39	65	7	29.2	8	25.8	26	66.7
Construction	86	113	141	235	27	31.4	28	24.8	94	66.7
Trans., Comm., Util., & R.R.	193	252	317	526	59	30.6	65	25.8	209	65.9
Wholesale-Retail Trade	512	670	841	1,397	158	30.9	171	25.5	556	66.1
Finance, Insur., Real Estate	82	107	135	224	25	30.5	28	26.2	89	65.9
Services	460	602	756	1,255	142	30.9	154	25.6	499	66.0
Government	457	598	752	1,246	141	30.9	154	25.8	494	65.7
Mercer County Total	3,859	4,897	5,970	7,609	1,038	26.9	1,073	17.9	1,639	21.5
Manufacturing Total	1,429	1,888	2,361	2,912	459	32.1	473	20.0	551	18.9
Food & Kindred	67	87	109	135	20	29.9	22	20.0	26	19.2
Tobacco	8	10	13	17	2	25.0	3	23.0	4	23.5
Clothing, Textile, Leather	644	859	1,074	1,325	215	33.4	215	20.0	251	18.9
Lumber and Furniture	12	17	21	26	5	41.7	4	19.0	5	19.2
Print., Publish., Paper	16	20	22	28	4	25.0	2	0.9	6	21.4
Chem., Petrol., Coal, Rubber	0	0	0	0	0	0.0	0	0.0	0	0.0
Stone, Clay, Glass	122	161	203	250	39	32.0	42	20.6	47	18.8
Primary Metals	5	6	8	10	1	20.0	2	25.0	2	20.0
Mach., Metal Prod., & Equip.	23	21	27	33	2	8.7	6	22.2	6	18.1
Other Manufacturing	532	712	890	1,098	180	33.8	178	20.0	208	18.9
Non-Manufacturing Total	2,430	3,009	3,609	4,697	579	23.8	600	16.6	1,088	23.2
Mining & Quarrying	16	20	25	35	16	25.0	5	20.0	10	28.6
Construction	201	242	286	368	41	20.4	44	15.3	82	22.2
Trans., Comm., Util., & R.R.	184	220	256	317	36	19.6	36	14.0	61	19.2
Wholesale-Retail Trade	714	900	1,080	1,263	186	26.1	180	16.6	183	14.4
Finance, Insur., Real Estate	117	150	181	265	33	28.2	31	17.1	84	31.7
Services	358	470	590	915	112	31.3	120	20.3	325	35.5
Government	840	1,007	1,191	1,534	167	19.9	184	15.4	343	22.3
Nelson County Total	4,659	5,902	7,186	10,603	1,243	26.7	1,284	21.8	3,417	47.6
Manufacturing Total	1,568	2,002	2,418	2,804	434	27.7	416	20.8	386	16.0
Food & Kindred	899	875	1,057	1,225	-24	-2.7	182	20.8	168	15.9
Tobacco	8	8	9	11	0	0.0	1	12.5	2	22.2
Clothing, Textile, Leather	204	204	247	286	0	0.0	43	21.7	39	15.8
Lumber and Furniture	33	154	186	216	121	366.7	32	20.8	30	16.1
Print., Publish., Paper	295	605	730	847	310	105.1	125	20.7	117	16.0
Chem., Petrol., Coal, Rubber	107	94	114	132	-13	-12.1	20	21.3	18	15.8
Stone, Glass, Clay	22	54	65	76	32	45.5	9	16.7	11	16.9
Primary Metals	0	0	0	0	0	0.0	0	0.0	0	0.0
Mach., Metal Prod., & Equip.	0	8	10	11	8	0.0	2	25.0	1	10.0
Other Manufacturing	0	0	0	0	0	0.0	0	0.0	0	0.0
Non-Manufacturing Total	3,091	3,900	4,768	7,799	809	26.2	1,868	47.9	3,031	63.6
Mining & Quarrying	43	55	67	109	12	27.9	12	21.8	42	62.7
Construction	405	511	625	1,022	106	26.2	114	22.3	397	63.5
Trans., Comm., Util., & R.R.	266	335	410	671	69	25.9	75	22.4	261	63.7
Wholesale-Retail Trade	940	1,186	1,449	2,371	246	26.2	263	22.2	922	63.6
Finance, Insur., Real Estate	94	117	143	234	23	24.5	26	22.2	91	63.6
Services	500	632	772	1,263	132	26.4	140	22.2	491	63.6
Government	843	1,064	1,302	2,129	221	26.2	238	22.4	827	63.5

Exhibit A-4.1t NON-AGRICULTURAL EMPLOYMENT TRENDS - SALT RIVER BASIN 1970-1995 (CONT'D)

Employment Category	Non-Agricultural Employment at Year				Employment Changes Between Year					
					1970-75		1975-80		1980-95	
	1970	1975	1980	1995	Number	%	Number	%	Number	%
Washington County Total	1,823	2,317	2,831	4,189	494	27.1	514	22.2	1,358	48.0
Manufacturing Total	611	838	1,076	1,271	227	37.2	238	28.4	195	18.1
Food & Kindred	115	156	200	236	41	35.7	44	28.2	36	18.0
Tobacco	190	201	258	305	11	5.79	57	28.4	47	18.2
Clothing, Textile, Leather	201	347	446	527	146	72.6	99	28.5	81	18.2
Lumber and Furniture	22	22	28	33	0	0.0	6	27.3	5	17.9
Print., Publish., Paper	5	8	10	12	3	60.0	2	25.0	2	20.0
Chem., Petrol., Coal, Rubber	78	104	134	158	26	33.3	30	28.9	24	17.9
Stone, Clay, Glass	0	0	0	0	0	0.0	0	0.0	0	0.0
Primary Metals	0	0	0	0	0	0.0	0	0.0	0	0.0
Mach., Metal Prod., & Equip.	0	0	0	0	0	0.0	0	0.0	0	0.0
Other Manufacturing	0	0	0	0	0	0.0	0	0.0	0	0.0
Non-Manufacturing Total	1,212	1,479	1,755	2,918	267	22.0	276	18.7	1,163	66.3
Mining & Quarrying	43	53	62	104	10	23.3	9	17.0	42	67.7
Construction	64	78	93	154	14	21.9	15	19.2	61	65.6
Trans., Comm., Util., & R.R.	78	95	113	188	17	21.8	18	18.9	75	66.4
Wholesale-Retail Trade	368	449	533	886	81	22.0	84	18.7	353	66.2
Finance, Insur., Real Estate	54	66	78	130	12	22.2	12	18.2	52	66.7
Services	172	210	249	414	38	22.1	39	18.6	165	66.3
Government	433	528	627	1,042	95	21.9	99	18.8	415	66.2

Exhibit A-4.2t COUNTY AND SEGMENT NON-AGRICULTURAL EMPLOYMENT TRENDS - SALT RIVER BASIN 1970-1995

Employment Category	Employment at Year				Employment Changes Between Year					
					1970-75		1975-80		1980-95	
	1970	1975	1980	1995	Number	%	Number	%	Number	%
Fifteen County Total	337,067	401,772	466,948	583,223	64,705	19.2	65,176	16.22	166,275	24.9
Outside SRB	189,141	214,258	238,551	257,526	25,117	13.28	24,293	11.34	18,975	7.95
Inside SRB	147,926	187,514	228,397	325,397	39,588	26.76	40,883	21.8	97,300	42.6
Anderson County Total	2,076	2,709	3,300	4,204	633	20.49	591	17.91	904	27.39
Outside SRB	329	333	422	515	4	1.22	89	26.73	93	22.04
Inside SRB	1,747	2,376	2,878	3,689	629	36.0	502	21.13	811	28.18
Segment SB-5	245	333	403	516	88	35.92	70	21.02	113	28.04
Segment SS-14	376	511	619	793	135	35.90	108	21.14	174	28.11
Segment SS-15	1,081	1,471	1,782	2,284	390	26.08	311	21.14	502	28.17
Segment SS-16	45	61	74	96	16	35.55	13	21.31	22	29.73
Boyle County Total	7,944	10,161	12,413	15,904	2,217	27.91	2,252	22.16	3,491	28.12
Outside SRB	1,600	2,360	2,891	3,626	760	47.50	531	22.50	735	25.42
Inside SRB	6,344	7,801	9,522	12,278	1,457	22.97	1,721	22.06	2,756	28.94
Segment SB-5	1,795	2,208	2,695	3,476	413	23.01	487	22.06	781	28.98
Segment SB-6	2,411	2,964	3,618	4,666	553	22.94	654	22.06	1,048	28.97
Segment SR-5	1,580	1,942	2,371	3,057	362	22.91	429	22.09	686	28.93
Segment SS-17	0	0	0	0	0	0.00	0	0.00	0	0.00
Segment SS-18	558	687	838	1,079	129	23.12	151	21.98	241	28.76
Bullitt County Total	2,594	8,882	15,169	34,962	6,288	242.41	6,286	70.76	19,793	130.48
Outside SRB	0	0	0	0	0	0.00	0	0.00	0	0.00
Inside SRB	2,594	8,882	15,169	34,962	6,288	242.41	6,286	70.76	19,793	130.48
Segment SF-1	1,180	4,041	6,902	15,908	2,861	242.46	2,861	70.79	9,006	130.48
Segment SP-1	0	0	0	0	0	0.00	0	0.00	0	0.00
Segment SP-2	2,179	7,461	12,742	13,363	5,282	242.36	5,281	70.78	621	4.87
Segment SR-1	265	906	1,547	3,566	641	241.87	641	70.75	2,019	130.51
Segment SR-2	23	80	127	315	57	247.83	57	71.25	178	129.93
Segment SS-1	0	0	0	0	0	0.00	0	0.00	0	0.00
Segment SS-2	498	1,705	2,912	6,713	1,207	242.37	1,207	70.79	3,801	130.53
Segment SS-3	148	506	865	1,993	358	241.89	359	70.95	1,128	130.40
Segment SS-4	236	808	1,380	3,182	572	242.37	572	70.79	1,802	130.58
Segment SS-5	26	89	152	350	63	242.31	63	70.79	198	130.26
Segment SS-8	0	0	0	0	0	0.00	0	0.00	0	0.00
Casey County Total	1,827	2,324	3,342	3,596	497	27.20	1,018	43.80	254	7.60
Outside SRB	1,827	2,324	3,342	3,596	497	27.20	1,018	43.80	254	7.60
Inside SRB	0	0	0	0	0	0.00	0	0.00	0	0.00
Segment SR-5	0	0	0	0	0	0.00	0	0.00	0	0.00
Hardin County Total	12,197	14,377	16,371	23,777	2,180	17.87	1,994	13.87	7,406	45.24
Outside SRB	5,142	6,576	7,488	10,876	1,434	27.89	912	13.87	3,388	45.25
Inside SRB	7,055	7,801	8,883	12,901	746	10.57	1,082	13.87	4,018	45.23
Segment SM-1	4,762	5,266	5,996	8,708	504	10.58	730	13.86	2,712	45.23
Segment SM-2	1,975	2,184	2,487	3,612	209	10.58	303	13.87	1,125	45.24
Segment SR-1	49	55	62	90	6	12.24	7	12.73	28	45.16
Segment SR-2	268	296	338	490	28	10.44	42	14.19	152	44.97
Segment SS-1	0	0	0	0	0	0.00	0	0.00	0	0.00
Henry County Total	1,720	3,115	4,510	5,545	1,395	81.10	1,395	44.78	1,035	22.95
Outside SRB	574	1,038	1,503	1,848	464	80.84	465	44.80	345	22.95
Inside SRB	1,146	2,077	3,007	3,697	931	81.24	930	44.78	690	22.95
Segment SF-4	76	137	198	244	61	80.26	61	44.53	46	23.23
Segment SS-9	919	1,666	2,412	2,965	747	81.28	746	44.78	553	22.93
Segment SS-10	151	274	397	488	123	81.46	123	44.89	91	22.92

Exhibit A-4.2t COUNTY AND SEGMENT NON-AGRICULTURAL EMPLOYMENT TRENDS - SALT RIVER BASIN 1970-1995 (CONT'D)

Employment Category	Employment at Year				Employment Changes Between Year					
	1970	1975	1980	1995	1970-75		1975-80		1980-95	
					Number	%	Number	%	Number	%
Jefferson County										
Total	286,737	329,088	371,384	437,003	42,351	14.77	42,296	12.85	65,619	17.67
Outside SRB	175,378	194,820	213,546	222,435	19,442	11.09	18,726	9.61	8,889	4.16
Inside SRB	111,359	134,268	157,838	214,568	22,909	20.57	23,570	17.55	56,730	35.94
Segment SF-1	7,795	9,399	9,470	11,158	1,604	20.58	71	0.76	1,688	17.82
Segment SF-2	8,018	9,667	14,995	24,032	1,649	20.57	53,280	55.12	39,027	260.27
Segment SF-3	8,352	10,070	14,205	21,886	1,718	20.57	4,135	41.06	7,681	54.07
Segment SP-1	0	0	0	0	0	0.00	0	0.00	0	0.00
Segment SP-2	87,194	105,132	119,168	157,278	17,938	20.57	14,036	13.35	38,110	31.98
Segment SS-8	0	0	0	0	0	0.00	0	0.00	0	0.00
Larue County										
Total	1,559	2,122	2,730	4,300	563	36.11	608	28.65	1,570	57.51
Outside SRB	1,320	1,797	2,312	3,642	477	36.14	515	28.66	1,330	57.53
Inside SRB	329	325	418	658	-4	1.22	93	28.62	240	57.42
Segment SR-2	0	0	0	0	0	0.00	0	0.00	0	0.00
Segment SR-3	329	325	418	658	-4	1.22	93	28.62	240	57.42
Marion County										
Total	2,738	3,603	4,522	6,812	865	31.59	919	25.51	2,290	50.64
Outside SRB	0	0	0	0	0	0.00	0	0.00	0	0.00
Inside SRB	2,738	3,603	4,522	6,812	865	31.59	919	25.51	2,290	50.64
Segment SB-2	137	180	226	341	43	31.39	46	25.55	115	50.88
Segment SB-3	1,500	1,974	2,478	3,733	474	31.60	504	25.53	1,255	50.65
Segment SB-4	85	112	140	211	27	31.76	28	25.00	71	50.71
Segment SR-3	416	548	687	1,035	135	31.73	139	25.36	348	50.66
Segment SR-4	474	623	782	1,178	149	31.43	159	25.52	396	50.64
Segment SR-5	216	285	357	538	69	31.94	72	25.26	181	50.70
Mercer County										
Total	3,859	4,897	5,970	7,609	1,038	26.90	1,073	21.91	1,639	27.45
Outside SRB	796	1,120	1,381	1,797	324	40.70	261	23.30	416	30.12
Inside SRB	3,063	3,777	4,589	5,812	714	23.32	812	21.50	1,223	26.65
Segment SB-5	588	725	881	1,058	137	23.30	156	21.52	177	20.09
Segment SS-16	110	136	165	209	26	23.64	29	21.32	44	26.67
Segment SS-17	2,365	2,916	3,543	4,487	551	23.30	627	21.50	944	26.64
Nelson County										
Total	4,659	5,902	7,186	10,603	1,243	26.70	1,284	21.76	3,417	47.55
Outside SRB	0	0	0	0	0	0.00	0	0.00	0	0.00
Inside SRB	4,659	5,902	7,186	10,603	1,243	26.70	1,284	21.76	3,417	47.55
Segment SB-1	1,971	2,497	3,040	4,485	526	26.69	543	21.75	1,445	47.53
Segment SB-2	457	758	704	1,039	121	26.48	126	21.80	335	47.59
Segment SB-5	61	77	93	138	16	26.23	16	20.78	45	48.39
Segment SR-2	228	289	352	520	61	26.75	63	21.80	168	47.73
Segment SS-5	727	921	1,121	1,654	194	26.69	200	21.72	533	47.55
Segment SS-6	466	590	719	1,060	124	26.61	129	21.86	341	47.43
Segment SS-13	121	153	187	276	32	26.45	34	22.22	89	47.59
Segment SS-14	19	24	29	42	5	26.32	5	20.83	13	44.83
Oldham County										
Total	2,377	4,466	6,560	10,903	2,089	87.88	2,094	46.89	4,343	66.20
Outside SRB	1,950	3,572	5,256	8,722	1,622	83.18	1,684	47.14	3,466	65.94
Inside SRB	427	894	1,304	2,181	467	109.37	410	45.86	877	67.25
Segment SF-3	0	0	0	0	0	0.00	0	0.00	0	0.00
Segment SF-4	427	894	1,304	2,181	467	109.37	410	45.86	877	67.25
Shelby County										
Total	4,500	6,350	8,200	9,373	1,850	41.11	1,850	29.13	1,173	14.30
Outside SRB	225	318	410	469	63	28.00	92	28.93	59	14.39
Inside SRB	4,275	6,032	7,790	8,904	1,757	41.10	1,758	29.14	1,114	14.30
Segment SF-3	175	247	319	365	72	41.14	72	29.15	46	14.42
Segment SF-4	111	157	203	232	46	41.44	46	29.30	29	14.29
Segment SS-7	0	0	0	0	0	0.00	0	0.00	0	0.00
Segment SS-8	86	127	156	178	41	47.67	29	22.83	22	14.10

Exhibit A-4.2t COUNTY AND SEGMENT NON-AGRICULTURAL EMPLOYMENT TRENDS - SALT RIVER BASIN 1970-1995 (CONT'D)

Employment Category	Employment at Year				Employment Changes Between Year					
	1970	1975	1980	1995	1970-75		1975-80		1980-95	
					Number	%	Number	%	Number	%
Shelby County (cont'd)										
Segment SS-9	517	730	943	1,077	213	41.20	213	29.18	134	14.21
Segment SS-10	111	157	203	232	46	41.44	46	29.30	29	14.29
Segment SS-11	2,108	2,974	3,840	4,390	866	41.08	866	29.12	550	14.32
Segment SS-12	878	1,262	1,636	1,870	369	41.09	369	29.12	234	14.30
Segment SS-13	261	368	475	543	107	40.99	107	29.08	68	14.32
Segment SS-14	9	12	16	18	3	33.33	4	33.33	2	12.50
Spencer County										
Total	457	1,459	2,460	4,443	1,002	219.26	1,001	68.61	1,983	80.61
Outside SRB	0	0	0	0	0	0.00	0	0.00	0	0.00
Inside SRB	457	1,459	2,460	4,443	1,002	219.26	1,001	68.61	1,983	80.61
Segment SF-1	23	73	123	222	50	217.39	50	68.49	99	80.49
Segment SS-4	21	67	113	204	46	219.05	46	68.66	91	80.53
Segment SS-5	27	88	148	267	61	225.93	60	68.18	119	80.41
Segment SS-6	39	125	212	382	86	220.51	87	69.60	170	80.19
Segment SS-7	61	194	327	591	133	218.03	133	68.56	264	80.73
Segment SS-8	45	143	241	435	98	217.78	98	68.53	194	80.50
Segment SS-12	135	432	728	1,315	297	220.00	296	68.52	587	80.63
Segment SS-13	126	402	679	1,226	276	219.05	277	68.91	547	80.56
Segment SS-14	0	0	0	0	0	0.00	0	0.00	0	0.00
Washington County										
Total	1,823	2,317	2,831	4,189	494	27.10	514	22.18	1,358	47.97
Outside SRB	0	0	0	0	0	0.00	0	0.00	0	0.00
Inside SRB	1,823	2,317	2,831	4,189	494	27.10	514	22.18	1,358	47.97
Segment SB-2	629	799	977	1,445	170	27.03	178	22.28	468	47.90
Segment SB-3	64	81	99	147	17	26.56	18	22.22	48	48.48
Segment SB-4	804	1,022	1,248	1,847	1,826	227.11	226	22.11	599	47.99
Segment SB-5	326	415	507	750	89	27.30	92	22.17	243	47.93

Exhibit A-5.1t JEFFERSON ADD NON-AGRICULTURAL EMPLOYMENT TRENDS 1970-1995

Employment Category	Employment at Year				% of ADD			
	1970	1975	1980	1995	1970	1975	1980	1995
Jefferson ADD Total	298,800	354,391	409,983	504,120	100.00	100.00	100.00	100.00
Manufacturing Total	99,116	115,874	132,708	152,238	100.00	100.00	100.00	100.00
Food & Kindred	12,281	15,480	19,029	24,990	100.00	100.00	100.00	100.00
Tobacco	10,634	12,131	13,535	14,913	100.00	100.00	100.00	100.00
Clothing, Textile, Leather	1,715	2,000	2,276	2,513	100.00	100.00	100.00	100.00
Lumber and Furniture	3,720	4,283	4,806	5,319	100.00	100.00	100.00	100.00
Print., Publish., Paper	9,036	10,634	12,291	14,311	100.00	100.00	100.00	100.00
Chem., Petrol., Coal, Rubber	8,524	9,812	11,028	12,192	100.00	100.00	100.00	100.00
Stone, Glass, Clay	1,983	2,288	2,576	2,851	100.00	100.00	100.00	100.00
Primary Metals	2,110	2,572	3,062	3,577	100.00	100.00	100.00	100.00
Mach., Metal Prod., & Equip.	47,442	54,638	61,586	68,798	100.00	100.00	100.00	100.00
Other Manufacturing	1,671	2,036	2,509	2,774	100.00	100.00	100.00	100.00
Non-Manufacturing Total	199,684	238,516	277,275	351,882	100.00	100.00	100.00	100.00
Mining & Quarrying	508	643	735	1,175	100.00	100.00	100.00	100.00
Construction	13,958	17,958	17,950	23,262	100.00	100.00	100.00	100.00
Trans., Comm., Util., & R.R.	20,888	23,260	24,977	28,061	100.00	100.00	100.00	100.00
Wholesale-Retail Trade	65,985	75,483	89,202	105,458	100.00	100.00	100.00	100.00
Finance, Insur., Real Estate	15,533	18,489	20,885	25,451	100.00	100.00	100.00	100.00
Services	44,162	52,201	68,103	83,603	100.00	100.00	100.00	100.00
Government	38,650	50,482	55,423	84,872	100.00	100.00	100.00	100.00
Bullitt County Total	2,594	8,882	15,129	34,962	0.87	2.51	3.69	6.94
Manufacturing Total	812	2,780	5,151	10,943	0.82	2.40	3.88	7.19
Food & Kindred	634	2,093	3,877	8,237	5.16	13.52	20.36	32.96
Tobacco	0	0	0	0	0.00	0.00	0.00	0.00
Clothing, Textile, Leather	0	0	0	0	0.00	0.00	0.00	0.00
Lumber and Furniture	4	12	23	49	0.11	2.80	4.79	9.21
Print., Publish., Paper	121	399	739	1,570	1.34	3.75	6.01	10.97
Chem., Petrol., Coal, Rubber	0	0	0	0	0.00	0.00	0.00	0.00
Stone, Glass, Clay	0	0	0	0	0.00	0.00	0.00	0.00
Primary Metals	0	0	0	0	0.00	0.00	0.00	0.00
Mach., Metal Prod., & Equip.	53	276	512	1,087	0.11	0.51	0.83	1.58
Other Manufacturing	0	0	0	0	0.00	0.00	0.00	0.00
Non-Manufacturing Total	1,782	6,102	10,018	24,019	0.89	2.56	3.61	6.83
Mining & Quarrying	47	161	260	633	9.25	25.04	35.37	53.87
Construction	55	188	281	741	0.39	1.05	1.57	3.19
Trans., Comm., Util., & R.R.	160	548	872	2,157	0.77	2.36	3.49	7.69
Wholesale-Retail Trade	396	1,356	2,369	5,339	0.60	1.80	2.66	5.06
Finance, Insur., Real Estate	65	223	375	878	0.42	1.21	1.80	3.45
Services	165	565	1,099	2,224	0.37	1.08	1.61	2.66
Government	894	3,061	4,762	12,047	2.31	6.06	8.59	14.19
Henry County Total	1,720	3,115	4,510	5,545	0.58	0.88	1.10	1.10
Manufacturing Total	417	755	1,211	1,344	0.42	0.65	0.91	0.88
Food & Kindred	7	11	18	19	0.06	0.07	0.09	0.08
Tobacco	0	0	0	0	0.00	0.00	0.00	0.00
Clothing, Textile, Leather	35	54	86	96	2.04	2.70	3.78	3.82
Lumber and Furniture	0	40	64	72	0.00	0.93	1.33	1.35
Print., Publish., Paper	12	19	31	34	0.13	0.18	0.25	0.24
Chem., Petrol., Coal, Rubber	0	32	51	57	0.00	0.33	0.46	0.47
Stone, Glass, Clay	0	6	10	11	0.00	0.26	0.39	0.39
Primary Metals	34	86	137	157	1.61	3.34	4.47	4.28
Mach., Metal Prod., & Equip.	13	20	32	35	0.03	0.04	0.05	0.05
Other Manufacturing	316	487	782	867	18.91	23.92	31.17	31.25
Non-Manufacturing Total	1,303	2,360	3,299	4,201	0.65	0.99	1.19	1.19
Mining & Quarrying	0	0	0	0	0.00	0.00	0.00	0.00
Construction	29	53	66	94	0.21	0.30	0.37	0.40
Trans., Comm., Util., & R.R.	50	91	122	161	0.24	0.39	0.49	0.57
Wholesale-Retail Trade	337	610	904	1,086	0.51	0.81	1.01	1.03
Finance, Insur., Real Estate	83	150	215	268	0.53	0.81	1.03	1.05
Services	121	219	360	390	0.27	0.42	0.53	0.47
Government	683	1,237	1,632	2,202	1.77	2.45	2.94	2.59

Exhibit A-5.1t JEFFERSON ADD NON-AGRICULTURAL EMPLOYMENT TRENDS 1970-1995 (CONT'D)

Employment Category	Employment at Year				% of ADD			
	1970	1975	1980	1995	1970	1975	1980	1995
Jefferson County Total	286,737	329,088	371,384	437,003	95.96	92.86	90.59	86.69
Manufacturing Total	96,197	109,614	122,241	134,671	97.05	94.60	92.11	88.46
Food & Kindred	11,458	13,055	14,559	16,039	93.30	84.33	76.47	64.18
Tobacco	10,597	12,079	13,471	14,841	99.65	99.57	99.53	99.52
Clothing, Textile, Leather	1,575	1,798	2,005	2,209	91.84	89.90	88.09	87.90
Lumber and Furniture	3,716	4,231	4,719	5,198	99.89	98.79	98.19	97.73
Print., Publish., Paper	8,677	9,887	11,026	12,147	96.03	92.98	89.71	84.88
Chem., Petrol., Coal, Rubber	8,487	9,668	10,782	11,878	99.57	98.53	97.77	97.42
Stone, Glass, Clay	1,897	2,159	2,408	2,653	95.66	94.36	93.48	93.06
Primary Metals	1,843	2,105	2,347	2,586	87.35	81.84	76.65	72.50
Mach., Metal Prod., & Equip.	46,592	53,086	59,202	65,221	98.21	97.16	96.13	94.80
Other Manufacturing	1,355	1,546	1,722	1,899	81.09	75.93	68.63	68.46
Non-Manufacturing Total	190,540	219,474	249,143	302,332	95.42	92.02	89.85	85.92
Mining & Quarrying	437	437	414	437	86.02	67.96	56.33	37.19
Construction	13,675	17,370	17,167	21,676	97.97	96.73	95.64	93.18
Trans., Comm., Util., & R.R.	20,319	22,035	23,223	24,635	97.28	94.73	92.98	87.79
Wholesale-Retail Trade	63,361	70,355	81,412	92,923	96.02	93.21	91.27	88.11
Finance, Insur., Real Estate	15,093	17,589	19,546	23,246	97.17	95.13	93.59	91.34
Services	43,009	49,984	64,388	78,220	97.39	95.75	94.55	93.56
Government	34,646	41,704	42,993	61,195	89.64	82.61	77.57	72.10
Oldham County Total	2,377	4,469	6,560	10,903	7.96	1.26	1.60	2.16
Manufacturing Total	558	1,049	1,677	2,559	4.54	6.78	8.81	10.24
Food & Kindred	38	66	106	161	0.31	0.43	0.56	0.64
Tobacco	0	0	0	0	0.00	0.00	0.00	0.00
Clothing, Textile, Leather	0	0	0	0	0.00	0.00	0.00	0.00
Lumber and Furniture	0	0	0	0	0.00	0.00	0.00	0.00
Print., Publish., Paper	6	10	16	24	0.07	0.09	0.13	0.18
Chem., Petrol., Coal, Rubber	0	60	96	146	0.00	0.61	0.87	1.20
Stone, Glass, Clay	8	13	21	32	0.40	0.57	0.82	1.12
Primary Metals	170	292	466	712	8.06	11.35	15.22	19.90
Mach., Metal Prod., & Equip.	336	605	967	1,476	0.71	1.11	1.57	2.15
Other Manufacturing	0	3	5	8	0.00	0.15	0.20	0.29
Non-Manufacturing Total	1,819	3,420	4,883	8,344	0.91	1.43	1.76	2.37
Mining & Quarrying	22	42	58	101	4.33	6.53	7.89	8.60
Construction	130	244	314	596	0.93	1.36	1.75	2.56
Trans., Comm., Util., & R.R.	63	118	162	289	0.30	0.51	0.65	1.03
Wholesale-Retail Trade	404	760	1,140	1,854	0.61	1.01	1.28	1.76
Finance, Insur., Real Estate	84	158	229	385	0.54	0.85	1.10	1.51
Services	278	523	873	1,276	0.62	1.00	1.28	1.53
Government	838	1,575	2,107	3,843	2.17	3.12	3.80	4.53
Shelby County Total	4,500	6,350	8,200	9,373	1.51	1.80	2.00	1.86
Manufacturing Total	1,097	1,548	2,034	2,285	1.11	1.34	1.53	1.50
Food & Kindred	125	177	221	248	1.02	1.14	1.16	0.99
Tobacco	37	52	64	72	0.35	0.43	0.47	0.48
Clothing, Textile, Leather	105	148	185	185	6.12	7.40	8.13	8.28
Lumber and Furniture	0	0	0	0	0.00	0.00	0.00	0.00
Print., Publish., Paper	211	298	439	492	2.34	2.80	3.57	3.44
Chem., Petrol., Coal, Rubber	37	52	99	111	0.43	0.53	0.90	0.91
Stone, Glass, Clay	78	110	137	155	3.93	4.81	5.32	5.44
Primary Metals	63	89	112	126	2.99	3.46	3.66	3.52
Mach., Metal Prod., & Equip.	441	622	777	873	0.93	1.14	1.26	1.27
Other Manufacturing	0	0	0	0	0.00	0.00	0.00	0.00
Non-Manufacturing Total	3,403	4,802	6,166	7,088	1.70	2.01	2.22	2.01
Mining & Quarrying	2	3	3	4	0.39	0.47	0.41	0.34
Construction	63	89	101	131	0.45	0.50	0.56	0.56
Trans., Comm., Util., & R.R.	265	374	450	552	1.27	1.61	1.80	1.97
Wholesale-Retail Trade	1,300	1,834	2,423	2,708	1.97	2.43	2.72	2.57
Finance, Insur., Real Estate	153	216	275	319	0.98	1.17	1.32	1.25
Services	541	763	1,123	1,127	1.23	1.46	1.65	1.35
Government	1,079	1,523	1,791	2,247	2.79	3.02	3.23	2.65

Exhibit A-5.1t JEFFERSON ADD NON-AGRICULTURAL EMPLOYMENT TRENDS 1970-1995 (CONT'D)

Employment Category	Employment at Year				% of ADD			
	1970	1975	1980	1995	1970	1975	1980	1995
Spencer County Total	457	1,459	2,460	4,443	0.15	0.41	0.60	0.88
Manufacturing Total	29	93	238	282	0.03	0.08	0.18	0.19
Food & Kindred	19	61	156	185	0.15	0.39	0.82	0.74
Tobacco	0	0	0	0	0.00	0.00	0.00	0.00
Clothing, Textile, Leather	0	0	0	0	0.00	0.00	0.00	0.00
Lumber and Furniture	0	0	0	0	0.00	0.00	0.00	0.00
Print., Publish., Paper	3	10	24	29	0.03	0.09	0.20	0.20
Chem., Petrol., Coal, Rubber	0	0	0	0	0.00	0.00	0.00	0.00
Stone, Glass, Clay	0	0	0	0	0.00	0.00	0.00	0.00
Primary Metals	0	0	0	0	0.00	0.00	0.00	0.00
Mach., Metal Prod., & Equip.	7	22	58	68	0.01	0.04	0.09	0.10
Other Manufacturing	0	0	0	0	0.00	0.00	0.00	0.00
Non-Manufacturing Total	428	1,366	2,222	4,161	0.21	0.57	0.80	1.18
Mining & Quarrying	0	0	0	0	0.00	0.00	0.00	0.00
Construction	0	0	0	0	0.00	0.00	0.00	0.00
Trans., Comm., Util., & R.R.	25	80	126	243	0.12	0.34	0.50	0.87
Wholesale-Retail Trade	134	428	737	1,303	0.20	0.57	0.83	1.24
Finance, Insur., Real Estate	21	67	111	204	0.14	0.36	0.53	0.80
Services	26	83	159	253	0.06	0.16	0.23	0.30
Government	222	708	1,089	2,158	0.57	1.40	1.96	2.54
Trimble County Total	415	1,027	1,700	1,891	0.14	0.29	0.41	0.38
Food & Kindred	6	35	156	154	0.01	0.03	0.12	0.10
Tobacco	0	17	102	101	0.00	0.11	0.54	0.40
Clothing, Textile, Leather	0	0	0	0	0.00	0.00	0.00	0.00
Lumber and Furniture	0	0	0	0	0.00	0.00	0.00	0.00
Print., Publish., Paper	6	11	16	15	0.70	0.10	0.13	0.10
Chem., Petrol., Coal, Rubber	0	0	0	0	0.00	0.00	0.00	0.00
Stone, Glass, Clay	0	0	0	0	0.00	0.00	0.00	0.00
Primary Metals	0	0	0	0	0.00	0.00	0.00	0.00
Mach., Metal Prod., & Equip.	0	7	38	38	0.00	0.10	0.06	0.06
Other Manufacturing	0	0	0	0	0.00	0.00	0.00	0.00
Non-Manufacturing Total	409	992	1,544	1,737	0.20	0.42	0.56	0.49
Mining & Quarrying	0	0	0	0	0.00	0.00	0.00	0.00
Construction	6	14	21	24	0.04	0.08	0.12	0.10
Trans., Comm., Util., & R.R.	6	14	22	24	0.03	0.06	0.09	0.09
Wholesale-Retail Trade	53	140	217	245	0.08	0.19	0.24	0.23
Finance, Insur., Real Estate	34	86	134	151	0.22	0.47	0.64	0.59
Services	22	64	101	113	0.05	0.12	0.15	0.14
Government	288	674	1,049	1,180	0.75	1.34	1.89	1.39

Exhibit A-5.2t LINCOLN TRAIL ADD NON-AGRICULTURAL EMPLOYMENT TRENDS 1970-1995

Employment Category	Employment at Year				% of ADD			
	1970	1975	1980	1995	1970	1975	1980	1995
Lincoln Trail ADD Total	29,886	36,958	44,031	65,250	100.0	100.0	100.0	100.0
Manufacturing Total	7,094	9,321	11,545	14,134	23.7	25.2	26.2	21.6
Food & Kindred	1,367	1,500	1,829	2,188	4.6	4.1	4.2	3.4
Tobacco	225	241	307	364	0.8	0.7	0.7	0.6
Clothing, Textile, Leather	1,660	1,926	2,429	3,057	5.6	5.2	5.5	4.7
Lumber and Furniture	432	743	910	1,121	1.4	2.0	2.1	1.7
Print., Publish., Paper	452	813	979	1,161	1.5	2.2	2.2	1.8
Chem., Petrol., Coal, Rubber	1,485	1,721	2,093	2,409	5.0	4.6	4.8	3.6
Stone, Glass, Clay	253	227	298	381	0.8	0.6	0.7	0.6
Primary Metals	0	0	0	0	0.0	0.0	0.0	0.0
Mach., Metal Prod., & Equip.	1,013	1,973	2,515	3,215	3.3	5.4	5.6	4.8
Other Manufacturing	207	157	185	238	0.7	0.4	0.4	0.4
Non-Mfg. Total	22,792	27,637	32,486	51,116	76.3	74.8	73.8	78.4
Mining & Quarrying	243	297	352	569	0.8	0.8	0.8	0.9
Construction	1,074	1,326	1,581	2,543	3.6	3.6	3.6	3.9
Trans., Comm., Util., & R.R.	1,767	2,150	2,539	4,004	5.9	5.8	5.8	6.1
Wholesale-Retail Trade	6,132	7,431	8,726	13,768	20.5	20.1	19.8	21.1
Finance, Insur., Real Estate	1,020	1,229	1,439	2,259	3.4	3.3	3.3	3.5
Services	3,080	3,766	4,458	7,082	10.3	10.2	10.1	10.8
Government	9,476	11,438	13,391	20,891	31.8	31.0	30.4	32.1
Breckinridge County Total	1,996	2,635	3,316	5,468	6.7	7.1	7.5	8.4
Manufacturing Total	293	546	846	1,145	1.0	1.5	2.0	1.7
Food & Kindred	4	2	3	5	0.02	0.0	0.0	0.0
Tobacco	0	0	0	0	0.0	0.0	0.0	0.0
Clothing, Textile, Leather	123	100	156	211	0.4	0.3	0.4	0.3
Lumber and Furniture	16	8	13	16	0.05	0.02	0.02	0.02
Print., Publish., Paper	7	6	8	11	0.03	0.01	0.01	0.01
Chem., Petrol., Coal, Rubber	0	10	16	22	0.0	0.02	0.03	0.03
Stone, Glass, Clay	143	74	114	155	0.5	0.2	0.3	0.2
Primary Metals	0	0	0	0	0.0	0.0	0.0	0.0
Mach., Metal Prod., & Equip.	0	346	536	725	0.0	0.9	1.2	1.1
Other Manufacturing	0	0	0	0	0.0	0.0	0.0	0.0
Non-Mfg. Total	1,703	2,089	2,470	4,323	5.7	5.6	5.5	6.7
Mining & Quarrying	41	50	59	104	0.2	0.1	0.1	0.2
Construction	81	100	119	208	0.3	0.3	0.3	0.3
Trans., Comm., Util., & R.R.	92	113	133	283	0.3	0.3	0.3	0.4
Wholesale-Retail Trade	401	491	580	1,016	1.3	1.3	1.3	1.6
Finance, Insur., Real Estate	67	81	96	169	0.2	0.2	0.2	0.3
Services	217	268	317	553	0.7	0.7	0.7	0.8
Government	804	986	1,166	2,040	2.7	2.7	2.6	3.1
Grayson County Total	2,480	3,012	3,531	5,481	8.3	8.2	8.0	8.4
Manufacturing Total	644	775	885	1,152	2.2	2.1	2.0	1.8
Food & Kindred	30	57	65	84	0.1	0.2	0.1	0.1
Tobacco	0	0	0	0	0.0	0.0	0.0	0.0
Clothing, Textile, Leather	403	288	328	427	1.4	0.8	0.8	0.7
Lumber and Furniture	93	171	196	255	0.3	0.5	0.5	0.4
Print., Publish., Paper	49	40	47	61	0.2	0.1	0.1	0.1
Chem., Petrol., Coal, Rubber	0	0	0	0	0.0	0.0	0.0	0.0
Stone, Clay, Glass	20	15	17	22	0.1	0.04	0.03	0.03
Primary Metals	0	0	0	0	0.0	0.0	0.0	0.0
Mach., Metal Prod., & Equip.	38	164	186	243	0.1	0.4	0.4	0.4
Other Manufacturing	11	40	46	60	0.03	0.1	0.1	0.1
Non-Mfg. Total	1,836	2,237	2,646	4,329	6.1	6.1	6.0	6.6
Mining & Quarrying	19	22	26	43	0.1	0.1	0.1	0.1
Construction	35	45	53	87	0.1	0.1	0.1	0.1
Trans., Comm., Util., & R.R.	252	306	363	593	0.9	0.9	0.8	0.9
Wholesale-Retail Trade	487	593	701	1,147	1.6	1.6	1.6	1.8
Finance, Insur., Real Estate	71	88	103	169	0.2	0.2	0.2	0.2
Services	224	273	323	528	0.7	0.7	0.7	0.8
Government	748	910	1,077	1,762	2.5	2.5	2.5	2.7

Exhibit A-5.2t LINCOLN TRAIL ADD NON-AGRICULTURAL EMPLOYMENT TRENDS 1970-1995 (CONT'D)

Employment Category	Employment at Year				% of ADD			
	1970	1975	1980	1995	1970	1975	1980	1995
Hardin County Total	12,197	14,377	16,371	32,777	40.8	38.9	37.2	36.4
Manufacturing Total	2,143	2,688	3,193	4,075	7.2	7.3	7.3	6.2
Food & Kindred	188	240	284	362	0.6	0.6	0.7	0.5
Tobacco	0	0	0	0	0.0	0.0	0.0	0.0
Clothing, Textile, Leather	281	319	379	483	0.9	0.9	0.9	0.7
Lumber and Furniture	3	76	91	116	0.01	0.2	0.2	0.2
Print., Publish., Paper	76	129	153	195	0.3	0.4	0.3	0.3
Chem., Petrol., Coal, Rubber	732	758	901	1,150	2.4	2.1	2.1	1.8
Stone, Glass, Clay	53	54	64	82	0.2	0.1	0.1	0.1
Primary Metals	0	0	0	0	0.0	0.0	0.0	0.0
Mach., Metal Prod., & Equip.	614	995	1,182	1,509	2.1	2.7	2.7	2.3
Other Manufacturing	196	117	139	178	0.7	0.3	0.3	0.3
Non-Mfg. Total	10,054	11,689	13,178	19,702	33.6	31.6	29.9	30.2
Mining & Quarrying	39	46	51	77	0.1	0.1	0.1	0.1
Construction	327	380	428	640	1.1	1.0	1.0	1.0
Trans., Comm., Util., & R.R.	636	740	834	1,247	2.1	2.0	1.9	1.9
Wholesale-Retail Trade	2,891	3,371	3,789	5,664	9.7	9.1	8.6	8.7
Finance, Insur., Real Estate	536	623	702	1,050	1.8	1.7	1.6	1.6
Services	1,225	1,424	1,605	2,400	4.1	3.9	3.6	3.7
Government	4,400	5,115	5,769	8,624	14.7	13.8	13.1	13.2
Larue County Total	1,559	2,122	2,730	4,300	5.2	5.7	6.2	6.6
Manufacturing Total	304	451	613	831	1.0	1.2	1.3	1.3
Food & Kindred	53	73	99	134	0.2	0.2	0.2	0.2
Tobacco	0	0	0	0	0.0	0.0	0.0	0.0
Clothing, Textile, Leather	212	334	454	616	0.7	0.9	1.0	0.9
Lumber and Furniture	25	29	40	54	0.1	0.1	0.1	0.1
Print., Publish., Paper	5	5	7	9	0.01	0.01	0.01	0.02
Chem., Petrol., Coal, Rubber	0	0	0	0	0.0	0.0	0.0	0.0
Stone, Clay, Glass	9	10	13	18	0.03	0.02	0.02	0.03
Primary Metals	0	0	0	0	0.0	0.0	0.0	0.0
Mach., Metal Prod., & Equip.	0	0	0	0	0.0	0.0	0.0	0.0
Other Manufacturing	0	0	0	0	0.0	0.0	0.0	0.0
Non-Mfg. Total	1,255	1,671	2,117	3,469	4.2	4.5	4.9	5.3
Mining & Quarrying	0	0	0	0	0.0	0.0	0.0	0.0
Construction	59	79	99	163	0.2	0.2	0.2	0.2
Trans., Comm., Util., & R.R.	64	85	108	177	0.2	0.2	0.3	0.3
Wholesale-Retail Trade	291	388	491	804	1.0	1.0	1.1	1.2
Finance, Insur., Real Estate	70	93	118	194	0.2	0.3	0.3	0.3
Services	141	188	238	390	0.5	0.5	0.6	0.6
Government	630	838	1,063	1,741	2.1	2.3	2.4	2.7
Marion County Total	2,738	3,603	4,522	6,812	9.2	9.7	10.3	10.5
Manufacturing Total	924	1,230	1,541	1,864	3.1	3.3	3.6	2.9
Food & Kindred	50	77	97	117	0.2	0.2	0.2	0.2
Tobacco	27	32	40	48	0.1	0.1	0.1	0.1
Clothing, Textile, Leather	236	334	419	507	0.8	0.9	1.0	0.8
Lumber and Furniture	240	283	356	431	0.8	0.8	0.8	0.7
Print., Publish., Paper	10	10	11	13	0.03	0.02	0.02	0.01
Chem., Petrol., Coal, Rubber	0	4	5	6	0.0	0.01	0.01	0.0
Stone, Glass, Clay	0	10	12	15	0.0	0.02	0.02	0.02
Primary Metals	0	0	0	0	0.0	0.0	0.0	0.0
Mach., Metal Prod., & Equip.	361	480	601	727	1.2	1.3	1.4	1.1
Other Manufacturing	0	0	0	0	0.0	0.0	0.0	0.0
Non-Mfg. Total	1,814	2,373	2,981	4,948	6.1	6.4	6.7	7.6
Mining & Quarrying	24	31	39	65	0.1	0.1	0.1	0.1
Construction	86	113	141	235	0.3	0.3	0.3	0.4
Trans., Comm., Util., & R.R.	193	252	317	526	0.7	0.7	0.7	0.8
Wholesale-Retail Trade	512	670	841	1,397	1.7	1.8	1.9	2.1
Finance, Insur., Real Estate	82	107	135	224	0.3	0.3	0.3	0.4
Services	460	602	756	1,255	1.5	1.6	1.7	1.9
Government	451	598	752	1,246	1.5	1.6	1.7	1.9

Exhibit A-5.2t LINCOLN TRAIL ADD NON-AGRICULTURAL EMPLOYMENT TRENDS 1970-1995 (CONT'D)

Employment Category	Employment at Year				% of ADD			
	1970	1975	1980	1995	1970	1975	1980	1995
Meade County Total	2,434	2,990	3,544	4,620	8.1	8.1	8.0	7.1
Manufacturing Total	607	791	973	992	2.0	2.1	2.2	1.5
Food & Kindred	28	20	24	25	0.1	0.1	0.1	0.03
Tobacco	0	0	0	0	0.0	0.0	0.0	0.0
Clothing, Textile, Leather	0	0	0	0	0.0	0.0	0.0	0.0
Lumber and Furniture	0	0	0	0	0.0	0.0	0.0	0.0
Print., Publish., Paper	5	10	13	13	0.01	0.02	0.02	0.01
Chem., Petrol., Coal, Rubber	568	251	923	941	1.9	2.0	2.1	1.4
Stone, Clay, Glass	6	10	13	13	0.02	0.02	0.02	0.01
Primary Metals	0	0	0	0	0.0	0.0	0.0	0.0
Mach., Metal Prod., & Equip.	0	0	0	0	0.0	0.0	0.0	0.0
Other Manufacturing	0	0	0	0	0.0	0.0	0.0	0.0
Non-Mfg. Total	1,827	2,199	2,571	3,628	6.1	6.0	5.8	5.6
Mining & Quarrying	34	41	49	69	0.1	0.1	0.1	0.1
Construction	17	40	23	33	0.1	0.1	0.1	0.1
Trans., Comm., Util., & R.R.	186	224	262	370	0.6	0.6	0.6	0.6
Wholesale-Retail Trade	242	291	340	479	0.8	0.8	0.8	0.8
Finance, Insur., Real Estate	46	55	64	91	0.2	0.1	0.1	0.1
Services	141	169	198	279	0.5	0.5	0.4	0.4
Government	1,161	1,399	1,635	2,307	3.8	3.8	3.7	3.5
Nelson County Total	4,659	5,902	7,186	10,603	15.6	16.0	16.3	16.2
Manufacturing Total	1,568	2,002	2,418	2,804	5.2	5.4	5.4	4.3
Food & Kindred	899	875	1,057	1,225	3.0	2.4	2.4	1.9
Tobacco	8	8	9	11	0.02	0.02	0.02	0.01
Clothing, Textile, Leather	204	204	247	286	0.7	0.6	0.6	0.4
Lumber and Furniture	33	154	186	216	0.11	0.4	0.4	0.3
Print., Publish., Paper	295	605	730	847	1.0	1.6	1.6	1.3
Chem., Petrol., Coal, Rubber	107	94	114	132	0.3	0.3	0.3	0.2
Stone, Glass, Clay	22	54	65	76	0.07	0.1	0.2	0.1
Primary Metals	0	0	0	0	0.0	0.0	0.0	0.0
Mach., Metal Prod., & Equip.	0	8	10	11	0.0	0.02	0.02	0.1
Other Manufacturing	0	0	0	0	0.0	0.0	0.0	0.0
Non-Mfg. Total	3,091	3,900	4,768	7,799	10.4	10.6	10.9	17.9
Mining & Quarrying	43	55	67	109	0.1	0.2	0.2	0.2
Construction	405	511	625	1,022	1.4	1.4	1.4	1.6
Trans., Comm., Util., & R.R.	266	355	410	671	0.9	0.9	0.9	1.0
Wholesale-Retail Trade	940	1,186	1,449	2,371	3.2	3.2	3.3	3.6
Finance, Insur., Real Estate	94	117	143	234	0.3	0.3	0.3	0.3
Services	500	632	772	1,263	1.2	1.7	1.8	1.9
Government	843	1,064	1,302	2,129	2.8	2.9	3.0	3.3
Washington County Total	1,823	2,317	2,831	4,189	6.1	6.3	6.4	6.4
Manufacturing Total	611	838	1,076	1,271	2.0	2.3	2.4	1.9
Food & Kindred	115	156	200	236	0.4	0.4	0.4	0.4
Tobacco	190	201	258	305	0.6	0.6	0.6	0.4
Clothing, Textile, Leather	201	347	446	527	0.7	0.9	1.0	0.8
Lumber and Furniture	22	22	28	33	0.1	0.1	0.1	0.1
Print., Publish., Paper	5	8	10	12	0.01	0.02	0.02	0.01
Chem., Petrol., Coal, Rubber	78	104	134	158	0.2	0.3	0.3	0.2
Stone, Glass, Clay	0	0	0	0	0.0	0.0	0.0	0.0
Primary Metals	0	0	0	0	0.0	0.0	0.0	0.0
Mach., Metal Prod., & Equip.	0	0	0	0	0.0	0.0	0.0	0.0
Other Manufacturing	0	0	0	0	0.0	0.0	0.0	0.0
Non-Mfg. Total	1,212	1,479	1,755	2,913	4.1	4.0	4.0	4.5
Mining & Quarrying	43	52	61	102	0.2	0.1	0.1	0.2
Construction	64	78	93	155	0.2	0.2	0.2	0.2
Trans., Comm., Util., & R.R.	78	95	112	187	0.3	0.3	0.3	0.3
Wholesale-Retail Trade	368	451	535	890	1.2	1.2	1.2	1.4
Finance, Insur., Real Estate	54	65	78	128	0.2	0.2	0.2	0.2
Services	172	210	249	414	0.6	0.6	0.6	0.6
Government	433	528	627	1,042	1.4	1.4	1.4	1.6

Exhibit A-6t COUNTY AND SEGMENT LAND USE TRENDS & PROJECTIONS - SALT RIVER BASIN 1970-1995

Area	Land Area at Year (Acres)				% of Area Inside SRB at Year			
	1970	1975	1980	1995	1970	1975	1980	1995
Fifteen County Total	3,066,240	3,066,240	3,066,240	3,066,240	-	-	-	-
Outside SRB	1,133,376	1,133,376	1,133,376	1,133,376	-	-	-	-
Inside SRB	1,932,864	1,932,864	1,932,864	1,932,864	100.0	100.0	100.0	100.0
Agricultural/Vacant	1,205,888	1,193,636	1,186,182	1,163,040	62.3	61.8	61.4	60.2
Silviculture	661,635	656,430	650,597	630,441	34.1	34.0	33.7	32.7
Mining	251	356	464	805	0.0	0.0	0.0	0.0
Urban	68,265	79,600	93,206	136,046	3.5	4.1	4.8	7.0
Construction	2,440	2,842	2,415	2,415	0.1	0.1	0.1	0.1
Urban	2,264	2,724	2,208	2,208	-	-	-	-
Nonurban	176	118	207	207	-	-	-	-
Anderson County	131,840	131,840	131,840	131,840	-	-	-	-
Outside SRB	19,520	19,520	19,520	19,520	-	-	-	-
Inside SRB	112,320	112,320	112,320	112,320	100.0	100.0	100.0	100.0
Agricultural/Vacant	85,542	85,451	85,318	84,849	76.2	76.1	76.0	75.5
Silviculture	25,757	25,525	25,485	25,344	22.8	22.7	22.7	22.6
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	1,158	1,305	1,469	2,079	1.0	1.2	1.3	1.9
Construction	45	39	48	48	0.0	0.0	0.0	0.0
Urban	29	33	41	41	-	-	-	-
Nonurban	16	6	7	7	-	-	-	-
Segment SB-5	31,168	31,168	31,168	31,168	100.0	100.0	100.0	100.0
Agricultural/Vacant	18,284	18,285	18,285	18,285	58.7	58.7	58.7	58.7
Silviculture	12,879	12,880	12,880	12,880	41.3	41.3	41.3	41.3
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	5	3	3	3	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	5	3	3	3	0.0	0.0	0.0	0.0
Segment SS-14	54,912	54,912	54,912	54,912	100.0	100.0	100.0	100.0
Agricultural/Vacant	42,027	42,026	42,025	42,025	76.5	76.5	76.5	76.5
Silviculture	12,878	12,878	12,878	12,878	23.5	23.5	23.5	23.5
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	7	5	4	4	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	7	5	4	4	0.0	0.0	0.0	0.0
Segment SS-15	19,968	19,968	19,968	19,968	100.0	100.0	100.0	100.0
Agricultural/Vacant	18,778	18,630	18,458	17,848	94.0	93.3	92.4	89.3
Silviculture	0	0	0	0	0.0	0.0	0.0	0.0
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	1,158	1,305	1,469	2,079	5.8	6.5	7.4	10.4
Construction	32	33	41	41	0.1	0.1	0.2	0.2
Urban	29	33	41	41	0.1	0.1	0.2	0.3
Nonurban	3	0	0	0	0.0	0.0	0.0	0.0
Segment SS-16	6,272	6,272	6,272	6,272	100.0	100.0	100.0	100.0
Agricultural/Vacant	6,271	6,271	6,272	6,272	100.0	100.0	100.0	100.0
Silviculture	0	0	0	0	0.0	0.0	0.0	0.0
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	1	1	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	1	1	0	0	0.0	0.0	0.0	0.0
Boyle County	117,760	117,760	117,760	117,760	-	-	-	-
Outside SRB	45,248	45,248	45,248	45,248	-	-	-	-
Inside SRB	72,512	72,512	72,512	72,512	100.0	100.0	100.0	100.0
Agricultural/Vacant	57,983	57,983	57,988	57,980	80.0	80.0	80.0	80.0
Silviculture	14,496	14,496	14,497	14,495	20.0	20.0	20.0	20.0
Mining	16	21	26	36	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	17	12	1	1	0.0	0.0	0.0	0.0
Urban	0	0	0	0	-	-	-	-
Nonurban	17	12	1	1	-	-	-	-

Exhibit A-6t COUNTY AND SEGMENT LAND USE TRENDS & PROJECTIONS - SALT RIVER BASIN 1970-1995 (CONT'D)

Area	Land Area at Year (Acres)				% of Area Inside SRB at Year			
	1970	1975	1980	1995	1970	1975	1980	1995
Boyle County (Cont'd)								
Segment SB-5	10,944	10,944	10,944	10,944	100.0	100.0	100.0	100.0
Agricultural/Vacant	10,913	10,920	10,918	10,908	99.8	99.8	99.8	99.7
Silviculture	0	0	0	0	0.0	0.0	0.0	0.0
Mining	16	21	26	36	0.2	0.2	0.2	0.3
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	5	3	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	5	3	0	0	0.0	0.0	0.0	0.0
Segment SB-6	18,688	18,688	18,688	18,688	100.0	100.0	100.0	100.0
Agricultural/Vacant	18,681	18,682	18,687	18,687	100.0	100.0	100.0	100.0
Silviculture	0	0	0	0	0.0	0.0	0.0	0.0
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	7	6	1	1	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	7	6	1	1	0.0	0.0	0.0	0.0
Segment SR-5	24,192	24,192	24,192	24,192	100.0	100.0	100.0	100.0
Agricultural/Vacant	9,696	9,695	9,695	9,695	41.1	41.1	41.1	41.1
Silviculture	14,496	14,497	14,497	14,497	59.9	59.9	59.9	59.9
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	4	3	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	4	3	0	0	0.0	0.0	0.0	0.0
Segment SS-17	2,176	2,176	2,176	2,176	100.0	100.0	100.0	100.0
Agricultural/Vacant	2,176	2,176	2,176	2,176	100.0	100.0	100.0	100.0
Silviculture	0	0	0	0	0.0	0.0	0.0	0.0
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	0	0	0	0	0.0	0.0	0.0	0.0
Segment SS-18	16,512	16,512	16,512	16,512	100.0	100.0	100.0	100.0
Agricultural/Vacant	16,512	16,512	16,512	16,512	100.0	100.0	100.0	100.0
Silviculture	0	0	0	0	0.0	0.0	0.0	0.0
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	1	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	1	0	0	0	0.0	0.0	0.0	0.0
Bullitt County	192,000	192,000	192,000	192,000	-	-	-	-
Outside SRB	0	0	0	0	-	-	-	-
Inside SRB	192,000	192,000	192,000	192,000	100.0	100.0	100.0	100.0
Agricultural/Vacant	84,755	83,936	82,913	76,180	44.1	43.7	43.2	39.7
Silviculture	106,000	104,981	102,703	95,275	55.2	54.7	54.0	49.6
Mining	20	68	116	267	0.0	0.0	0.1	0.2
Urban	896	2,534	4,917	19,927	0.5	1.3	2.6	10.4
Construction	329	481	351	351	0.2	0.3	0.1	0.1
Urban	328	477	351	351	-	-	-	-
Nonurban	1	4	0	0	-	-	-	-
Segment SF-1	33,472	33,472	33,472	33,472	100.0	100.0	100.0	100.0
Agricultural/Vacant	24,606	23,803	23,498	18,099	73.5	71.1	70.2	54.0
Silviculture	8,866	8,582	8,472	6,525	26.5	25.5	25.2	19.4
Mining	20	68	116	267	0.0	0.2	0.3	0.7
Urban	0	858	1,294	8,433	0.0	2.4	3.9	25.1
Construction	0	161	92	148	0.0	0.4	0.2	0.4
Urban	0	161	92	148	0.0	0.4	0.2	0.4
Nonurban	0	0	0	0	0.0	0.0	0.0	0.0

Exhibit A-6t COUNTY AND SEGMENT LAND USE TRENDS & PROJECTIONS - SALT RIVER BASIN 1970-1995 (CONT'D)

Area	Land Area at Year (Acres)				% of Area Inside SRB at Year			
	1970	1975	1980	1995	1970	1975	1980	1995
Bullitt County (Cont'd)								
Segment SP-1	22,400	22,400	22,400	22,400	100.0	100.0	100.0	100.0
Agricultural/Vacant	4,420	0	0	0	19.7	0.0	0.0	0.0
Silviculture	17,980	22,400	22,400	22,400	80.3	100.0	100.0	100.0
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	0	0	0	0	0.0	0.0	0.0	0.0
Segment SP-2	2,048	2,048	2,048	2,048	100.0	100.0	100.0	100.0
Agricultural/Vacant	403	403	403	403	19.7	19.7	19.7	19.7
Silviculture	1,645	1,645	1,645	1,645	80.3	80.3	80.3	80.3
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	0	0	0	0	0.0	0.0	0.0	0.0
Segment SR-1	33,472	33,472	33,472	33,472	100.0	100.0	100.0	100.0
Agricultural/Vacant	13,322	13,322	13,322	13,322	39.8	39.8	39.8	39.8
Silviculture	20,150	20,150	20,150	20,150	60.2	60.2	60.2	60.2
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	0	0	0	0	0.0	0.0	0.0	0.0
Segment SR-2	8,128	8,128	8,128	8,128	100.0	100.0	100.0	100.0
Agricultural/Vacant	2,257	2,257	2,257	2,257	27.8	27.8	27.8	27.8
Silviculture	5,871	5,871	5,871	5,871	72.2	72.2	72.2	72.2
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	0	0	0	0	0.0	0.0	0.0	0.0
Segment SS-1	10,176	10,176	10,176	10,176	100.0	100.0	100.0	100.0
Agricultural/Vacant	2,008	2,008	2,008	2,008	19.7	19.7	19.7	19.7
Silviculture	8,168	8,168	8,168	8,168	80.3	80.3	80.3	80.3
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	0	0	0	0	0.0	0.0	0.0	0.0
Segment SS-2	23,360	23,360	23,360	23,360	100.0	100.0	100.0	100.0
Agricultural/Vacant	12,760	12,305	11,219	6,718	54.6	52.7	48.0	28.9
Silviculture	9,375	9,059	8,259	4,944	40.1	38.8	35.3	21.2
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	896	1,676	3,623	11,494	3.8	7.2	15.5	49.2
Construction	329	320	259	203	1.4	1.4	1.1	0.9
Urban	328	316	259	203	1.4	1.4	1.1	0.9
Nonurban	1	4	0	0	0.0	0.0	0.0	0.0
Segment SS-3	19,328	19,328	19,328	19,328	100.0	100.0	100.0	100.0
Agricultural/Vacant	5,366	5,366	5,366	5,366	27.8	27.8	27.8	27.8
Silviculture	13,962	13,962	13,962	13,962	72.2	72.2	72.2	72.2
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	0	0	0	0	0.0	0.0	0.0	0.0

Exhibit A-6t COUNTY AND SEGMENT LAND USE TRENDS & PROJECTIONS - SALT RIVER BASIN 1970-1995 (CONT'D)

Area	Land Area at Year (Acres)				% of Area Inside SRB at Year			
	1970	1975	1980	1995	1970	1975	1980	1995
Bullitt County (Cont'd)								
Segment SS-4	29,440	29,440	29,440	29,440	100.0	100.0	100.0	100.0
Agricultural/Vacant	17,625	17,625	17,625	17,625	59.9	59.9	59.9	59.9
Silviculture	11,815	11,815	11,815	11,815	40.1	40.1	40.1	40.1
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	0	0	0	0	0.0	0.0	0.0	0.0
Segment SS-5	9,152	9,152	9,152	9,152	100.0	100.0	100.0	100.0
Agricultural/Vacant	1,806	1,806	1,806	1,806	19.7	19.7	19.7	19.7
Silviculture	7,346	7,346	7,346	7,346	80.3	80.3	80.3	80.3
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	0	0	0	0	0.0	0.0	0.0	0.0
Segment SS-8	1,024	1,024	1,024	1,024	100.0	100.0	100.0	100.0
Agricultural/Vacant	202	202	202	202	19.7	19.7	19.7	19.7
Silviculture	822	822	822	822	80.3	80.3	80.3	80.3
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	0	0	0	0	0.0	0.0	0.0	0.0
Casey County	278,400	278,400	278,400	278,400	-	-	-	-
Outside SRB	230,272	230,272	290,272	230,272	-	-	-	-
Inside SRB	48,128	48,128	48,128	48,128	100.0	100.0	100.0	100.0
Agricultural/Vacant	0	0	0	0	0	0	0	0
Silviculture	48,128	48,128	48,128	48,128	100.0	100.0	100.0	100.0
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	-	-	-	-
Nonurban	0	0	0	0	-	-	-	-
Segment SR-5	48,128	48,128	48,128	48,128	100.0	100.0	100.0	100.0
Agricultural/Vacant	0	0	0	0	0.0	0.0	0.0	0.0
Silviculture	48,128	48,128	48,128	48,128	100.0	100.0	100.0	100.0
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	0	0	0	0	0.0	0.0	0.0	0.0
Hardin County	394,880	394,880	394,880	394,880	-	-	-	-
Outside SRB	289,280	289,280	289,280	289,280	-	-	-	-
Inside SRB	105,600	105,600	105,600	105,600	100.0	100.0	100.0	100.0
Agricultural/Vacant	13,910	13,877	13,749	13,518	13.2	13.1	13.0	12.8
Silviculture	78,823	78,639	77,910	75,672	74.6	74.5	73.8	71.7
Mining	21	23	27	40	0.0	0.0	0.0	0.0
Urban	12,826	12,883	13,738	16,194	12.2	12.2	13.0	15.0
Construction	20	178	176	176	0.0	0.2	0.2	0.2
Urban	11	171	164	164	-	-	-	-
Nonurban	9	7	12	12	-	-	-	-
Segment SM-1	19,905	19,905	19,905	19,905	100.0	100.0	100.0	100.0
Agricultural/Vacant	1,498	1,473	1,375	1,090	7.6	7.4	6.8	5.2
Silviculture	8,489	8,347	7,790	6,177	42.6	41.4	39.0	31.0
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	9,909	9,953	10,613	12,511	49.8	50.0	53.1	62.3
Construction	9	132	127	127	0.0	0.6	0.6	0.6
Urban	9	132	127	127	0.0	0.6	0.6	0.6
Nonurban	0	0	0	0	0.0	0.0	0.0	0.0

Exhibit A-6t COUNTY AND SEGMENT LAND USE TRENDS & PROJECTIONS - SALT RIVER BASIN 1970-1995 (CONT'D)

Area	Land Area at Year (Acres)				% of Area Inside SRB at Year			
	1970	1975	1980	1995	1970	1975	1980	1995
Segment SM-2	22,912	22,912	22,912	22,912	100.0	100.0	100.0	100.0
Agricultural/Vacant	2,996	2,987	2,959	2,874	13.1	13.0	12.8	12.5
Silviculture	16,977	16,937	16,766	16,285	74.1	73.0	73.2	71.0
Mining	11	12	14	21	0.0	0.0	0.0	0.0
Urban	2,917	2,930	3,124	3,683	12.8	12.8	13.6	16.0
Construction	11	46	49	49	0.0	0.2	0.2	0.2
Urban	2	39	37	37	0.0	0.2	0.2	0.2
Nonurban	9	7	12	12	0.0	0.0	0.0	0.0
Segment SR-1	20,928	20,928	20,928	20,928	100.0	100.0	100.0	100.0
Agricultural/Vacant	3,139	3,139	3,139	3,139	14.9	14.9	14.9	14.9
Silviculture	17,789	17,789	17,789	17,789	85.1	85.1	85.1	85.1
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	0	0	0	0	0.0	0.0	0.0	0.0
Segment SR-2	31,872	31,872	31,872	31,872	100.0	100.0	100.0	100.0
Agricultural/Vacant	4,780	4,779	4,777	4,771	14.9	14.9	14.9	14.9
Silviculture	27,082	27,082	27,082	27,082	85.1	85.1	85.1	85.0
Mining	10	11	13	19	0.0	0.0	0.0	0.1
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	0	0	0	0	0.0	0.0	0.0	0.0
Segment SS-1	9,984	9,984	9,984	9,984	100.0	100.0	100.0	100.0
Agricultural/Vacant	1,498	1,498	1,498	1,498	15.0	15.0	15.0	15.0
Silviculture	8,486	8,486	8,486	8,486	85.0	85.0	85.0	85.0
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	0	0	0	0	0.0	0.0	0.0	0.0

Exhibit A-6t COUNTY AND SEGMENT LAND USE TRENDS & PROJECTIONS - SALT RIVER BASIN 1970-1995 (CONT'D)

Area	Land Area at Year (Acres)				% of Area Inside SRB at Year			
	1970	1975	1980	1995	1970	1975	1980	1995
Henry County	184,960	184,960	184,960	184,960	-	-	-	-
Outside SRB	196,600	169,600	169,600	169,600	-	-	-	-
Inside SRB	15,360	15,360	15,360	15,360	100.0	100.0	100.0	100.0
Agricultural/Vacant	15,359	15,359	15,353	15,353	100.0	100.0	100.0	100.0
Silviculture	0	0	0	0	0.0	0.0	0.0	0.0
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	1	1	7	7	0.0	0.0	0.0	0.0
Urban	0	0	0	0	-	-	-	-
Nonurban	1	1	7	7	-	-	-	-
Segment SF-4	8,384	8,384	8,384	8,384	100.0	100.0	100.0	100.0
Agricultural/Vacant	8,384	8,384	8,384	8,384	100.0	100.0	100.0	100.0
Silviculture	0	0	0	0	0.0	0.0	0.0	0.0
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	0	0	1	1	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	0	0	1	1	0.0	0.0	0.0	0.0
Segment SS-9	5,568	5,568	5,568	5,568	100.0	100.0	100.0	100.0
Agricultural/Vacant	5,568	5,568	5,568	5,568	100.0	100.0	100.0	100.0
Silviculture	0	0	0	0	0.0	0.0	0.0	0.0
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	1	1	5	5	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	1	1	5	5	0.0	0.0	0.0	0.0
Segment SS-10	1,408	1,408	1,408	1,408	100.0	100.0	100.0	100.0
Agricultural/Vacant	1,408	1,408	1,408	1,408	100.0	100.0	100.0	100.0
Silviculture	0	0	0	0	0.0	0.0	0.0	0.0
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	0	0	1	1	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	0	0	1	1	0.0	0.0	0.0	0.0
Jefferson County	247,680	247,680	247,680	247,680	-	-	-	-
Outside SRB	126,848	126,848	126,848	126,848	-	-	-	-
Inside SRB	120,832	120,832	120,832	120,832	100.0	100.0	100.0	100.0
Agricultural/Vacant	44,270	39,017	33,698	20,928	36.6	32.3	29.9	17.3
Silviculture	29,513	26,012	22,465	13,952	24.4	21.5	18.6	11.6
Mining	27	27	27	27	0.0	0.0	0.0	0.0
Urban	45,218	53,987	63,178	84,461	37.5	44.6	52.3	69.9
Construction	1,804	1,879	1,464	1,464	1.5	1.6	1.2	1.2
Urban	1,735	1,856	1,419	1,419	-	-	-	-
Nonurban	69	23	45	45	-	-	-	-
Segment SF-1	23,936	23,936	23,936	23,936	100.0	100.0	100.0	100.0
Agricultural/Vacant	14,042	14,068	14,062	13,856	58.6	58.8	58.8	58.8
Silviculture	9,838	9,838	9,838	6,321	41.0	41.0	41.0	41.0
Mining	7	7	7	7	0.0	0.0	0.0	0.0
Urban	0	0	0	3,517	0.0	0.0	0.0	0.0
Construction	49	23	29	235	0.2	0.1	0.1	0.1
Urban	0	0	0	206	0.0	0.0	0.0	0.0
Nonurban	49	23	29	29	0.2	0.1	0.1	0.1

Exhibit A-6t COUNTY AND SEGMENT LAND USE TRENDS & PROJECTIONS - SALT RIVER BASIN 1970-1995 (CONT'D)

Area	Land Area at Year (Acres)				% of Area Inside SRB at Year			
	1970	1975	1980	1995	1970	1975	1980	1995
Jefferson County (Cont'd)								
Segment SF-2	11,520	11,520	11,520	11,520	100.0	100.0	100.0	100.0
Agricultural/Vacant	8,030	5,662	3,532	0	67.0	55.1	42.1	7.4
Silviculture	0	0	0	0	0.0	0.0	0.0	0.0
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	3,139	5,278	7,574	11,256	27.2	40.5	53.3	87.0
Construction	351	580	414	264	3.0	2.2	2.3	2.3
Urban	351	580	414	264	3.0	2.2	2.3	2.3
Nonurban	0	0	0	0	0.0	0.0	0.0	0.0
Segment SF-3	33,792	33,792	33,792	33,792	100.0	100.0	100.0	100.0
Agricultural/Vacant	21,921	18,484	15,504	6,491	68.2	66.0	63.1	58.7
Silviculture	10,065	8,545	4,996	0	26.4	25.4	24.3	19.0
Mining	7	7	7	7	0.0	0.0	0.0	0.0
Urban	1,600	5,916	12,321	26,334	4.5	7.2	11.7	21.4
Construction	199	839	964	960	0.5	0.7	0.5	0.5
Urban	179	839	964	944	0.4	0.7	0.4	0.4
Nonurban	20	0	16	16	0.0	0.0	0.0	0.0
Segment SP-1	4,480	4,480	4,480	4,480	100.0	100.0	100.0	100.0
Agricultural/Vacant	0	0	0	0	0.0	0.0	0.0	0.0
Silviculture	4,480	4,480	4,480	4,480	100.0	100.0	100.0	100.0
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	0	0	0	0	0.0	0.0	0.0	0.0
Segment SP-2	46,208	46,208	46,208	46,208	100.0	100.0	100.0	100.0
Agricultural/Vacant	2,256	800	600	581	4.9	0.0	0.0	0.0
Silviculture	2,255	2,255	2,255	2,255	4.9	4.9	4.9	4.9
Mining	13	13	13	13	0.0	0.0	0.0	0.0
Urban	40,479	42,702	43,283	43,354	83.4	90.3	90.0	90.9
Construction	1,205	438	57	5	3.4	3.3	2.0	2.1
Urban	1,205	438	57	5	3.4	3.3	2.0	2.1
Nonurban	0	0	0	0	0.0	0.0	0.0	0.0
Segment SS-8	896	896	896	896	100.0	100.0	100.0	100.0
Agricultural/Vacant	0	0	0	0	0.0	0.0	0.0	0.0
Silviculture	896	896	896	896	100.0	100.0	100.0	100.0
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	0	0	0	0	0.0	0.0	0.0	0.0
Larue County	166,400	166,400	166,400	166,400	-	-	-	-
Outside SRB	69,504	69,504	69,504	69,504	-	-	-	-
Inside SRB	96,896	96,896	96,896	96,896	100.0	100.0	100.0	100.0
Agricultural/Vacant	46,766	46,766	46,765	46,765	48.3	48.3	48.3	48.3
Silviculture	50,130	50,130	50,130	50,130	51.7	51.7	51.7	51.7
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	0	0	1	1	0.0	0.0	0.0	0.0
Urban	0	0	0	0	-	-	-	-
Nonurban	0	0	1	1	-	-	-	-
Segment SR-2	24,064	24,064	24,064	24,064	100.0	100.0	100.0	100.0
Agricultural/Vacant	4,090	4,090	4,090	4,090	15.0	15.0	15.0	15.0
Silviculture	23,174	23,174	23,174	23,174	85.0	85.0	85.0	85.0
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	0	0	0	0	0.0	0.0	0.0	0.0

Exhibit A-6t COUNTY AND SEGMENT LAND USE TRENDS & PROJECTIONS - SALT RIVER BASIN 1970-1995 (CONT'D)

Area	Land Area at Year (Acres)				% of Area Inside SRB at Year			
	1970	1975	1980	1995	1970	1975	1980	1995
Larue County (Cont'd)								
Segment SR-3	69,362	69,362	69,362	69,362	100.0	100.0	100.0	100.0
Agricultural/Vacant	42,406	42,406	42,405	42,405	61.1	61.1	61.1	61.1
Silviculture	26,956	26,956	26,956	26,956	38.9	38.9	38.9	38.9
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	0	0	1	1	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	0	0	1	1	0.0	0.0	0.0	0.0
Marion County	219,520	219,520	219,520	219,520	-	-	-	-
Outside SRB	0	0	0	0	-	-	-	-
Inside SRB	219,520	219,520	219,520	219,520	100.0	100.0	100.0	100.0
Agricultural/Vacant	134,894	134,870	134,749	134,328	61.5	61.4	61.4	61.2
Silviculture	82,800	82,662	82,588	82,330	31.7	37.7	37.6	37.5
Mining	4	5	6	11	0.0	0.0	0.0	0.0
Urban	1,789	1,944	2,127	2,801	0.8	0.9	1.0	1.3
Construction	33	39	50	50	0.0	0.0	0.0	0.0
Urban	31	37	45	45	-	-	-	-
Nonurban	2	2	5	5	-	-	-	-
Segment SB-2	24,064	24,064	24,064	24,064	100.0	100.0	100.0	100.0
Agricultural/Vacant	24,064	24,064	24,064	24,064	100.0	100.0	100.0	100.0
Silviculture	0	0	0	0	0.0	0.0	0.0	0.0
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	0	0	0	0	0.0	0.0	0.0	0.0
Segment SB-3	28,096	28,096	28,096	28,096	100.0	100.0	100.0	100.0
Agricultural/Vacant	13,854	13,713	13,533	12,894	49.3	48.8	48.1	45.9
Silviculture	12,420	12,399	12,388	12,350	44.2	44.1	44.0	43.9
Mining	2	3	3	6	0.0	0.0	0.0	0.0
Urban	1,789	1,944	2,127	2,801	6.4	6.9	7.5	10.0
Construction	31	37	45	45	0.1	0.1	0.2	0.1
Urban	31	37	45	45	0.1	0.1	0.2	0.1
Nonurban	0	0	0	0	0.0	0.0	0.0	0.0
Segment SB-4	15,040	15,040	15,040	15,040	100.0	100.0	100.0	100.0
Agricultural/Vacant	15,038	15,038	15,037	15,035	100.0	100.0	100.0	100.0
Silviculture	0	0	0	0	0.0	0.0	0.0	0.0
Mining	2	2	3	5	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	0	0	0	0	0.0	0.0	0.0	0.0
Segment SR-3	25,024	25,024	25,024	25,024	100.0	100.0	100.0	100.0
Agricultural/Vacant	5,023	5,101	5,118	5,180	20.1	20.4	20.5	20.7
Silviculture	20,000	19,922	19,904	19,842	79.9	79.6	79.5	79.3
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	1	1	2	2	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	1	1	2	2	0.0	0.0	0.0	0.0
Segment SR-4	86,208	86,208	86,208	86,208	100.0	100.0	100.0	100.0
Agricultural/Vacant	56,527	56,531	56,555	56,649	65.6	65.6	65.6	65.7
Silviculture	29,680	29,676	29,650	29,556	34.4	34.4	34.4	34.3
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	1	1	3	3	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	1	1	3	3	0.0	0.0	0.0	0.0

Exhibit A-6t COUNTY AND SEGMENT LAND USE TRENDS & PROJECTIONS - SALT RIVER BASIN 1970-1995 (CONT'D)

Area	Land Area at Year (Acres)				% of Area Inside SRB at Year			
	1970	1975	1980	1995	1970	1975	1980	1995
Marion County (Cont'd)								
Segment SR-5	41,088	41,088	41,088	41,088	100.0	100.0	100.0	100.0
Agricultural/Vacant	20,388	20,422	20,441	20,505	49.6	49.7	49.7	49.9
Silviculture	20,700	20,666	20,647	20,583	50.4	50.3	50.3	50.1
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	0	0	0	0	0.0	0.0	0.0	0.0
Mercer County	165,760	165,760	176,760	176,760	-	-	-	-
Outside SRB	59,776	59,776	59,776	59,776	-	-	-	-
Inside SRB	105,984	105,984	105,984	105,984	100.0	100.0	100.0	100.0
Agricultural/Vacant	94,933	94,929	94,663	93,736	89.6	89.6	89.3	88.4
Silviculture	8,800	8,592	8,568	8,484	8.3	8.1	8.1	8.0
Mining	8	10	12	17	0.0	0.0	0.0	0.0
Urban	2,182	2,402	2,659	3,665	2.1	2.3	2.5	3.5
Construction	61	51	82	82	0.0	0.0	0.1	0.1
Urban	44	51	67	67	-	-	-	-
Nonurban	17	0	15	15	-	-	-	-
Segment SB-5	47,680	47,680	47,680	47,680	100.0	100.0	100.0	100.0
Agricultural/Vacant	39,749	39,947	39,957	40,032	83.4	83.8	83.8	84.0
Silviculture	7,920	7,733	7,711	7,636	16.6	16.2	16.2	16.0
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	11	0	12	12	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	11	0	12	12	0.0	0.0	0.0	0.0
Segment SS-16	8,448	8,448	8,448	8,448	100.0	100.0	100.0	100.0
Agricultural/Vacant	8,006	8,018	8,018	8,012	94.8	94.9	94.9	95.8
Silviculture	440	430	428	424	5.2	5.1	5.1	5.0
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	2	0	2	2	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	2	0	2	2	0.0	0.0	0.0	0.0
Segment SS-17	49,856	49,856	49,856	49,856	100.0	100.0	100.0	100.0
Agricultural/Vacant	47,138	46,963	46,689	45,682	94.5	94.2	93.6	91.6
Silviculture	440	430	428	424	0.8	0.8	0.9	0.9
Mining	8	10	12	17	0.0	0.0	0.0	0.0
Urban	2,182	2,402	2,659	3,665	4.4	4.8	5.3	7.3
Construction	88	51	68	68	0.2	0.1	0.1	0.1
Urban	44	51	67	67	0.1	0.1	0.1	0.1
Nonurban	4	0	1	1	0.0	0.0	0.0	0.0
Nelson County	279,680	279,680	279,680	279,680	-	-	-	-
Outside SRB	0	0	0	0	-	-	-	-
Inside SRB	279,680	279,680	279,680	279,680	100.0	100.0	100.0	100.0
Agricultural/Vacant	160,412	160,353	160,218	159,797	57.4	57.3	57.3	57.1
Silviculture	117,200	117,075	116,975	116,668	41.9	41.9	41.8	41.7
Mining	137	175	213	347	0.1	0.1	0.1	0.1
Urban	1,885	2,026	2,194	2,788	0.6	0.7	0.8	1.1
Construction	46	51	80	80	0.0	0.0	0.0	0.0
Urban	29	34	40	40	-	-	-	-
Nonurban	17	17	40	40	-	-	-	-
Segment SB-1	60,224	60,224	60,224	60,224	100.0	100.0	100.0	100.0
Agricultural/Vacant	35,581	35,484	35,365	34,961	59.1	58.9	58.7	58.0
Silviculture	22,660	22,592	22,515	22,258	37.6	37.5	37.3	36.9
Mining	69	88	107	174	0.1	0.2	0.2	0.3
Urban	1,885	2,026	2,194	2,788	3.2	3.4	3.6	4.6
Construction	29	34	43	43	0.0	0.0	0.1	0.1
Urban	29	34	40	40	0.0	0.0	0.1	0.1
Nonurban	0	0	3	3	0.0	0.0	0.0	0.0

Exhibit A-6t COUNTY AND SEGMENT LAND USE TRENDS & PROJECTIONS - SALT RIVER BASIN 1970-1995 (CONT'D)

Area	Land Area at Year (Acres)				% of Area Inside SRB at Year			
	1970	1975	1980	1995	1970	1975	1980	1995
Nelson County (Cont'd)								
Segment SB-2	38,784	38,704	38,704	38,704	100.0	100.0	100.0	100.0
Agricultural/Vacant	23,692	23,692	23,690	23,690	61.1	61.1	61.1	61.1
Silviculture	15,089	15,089	15,088	15,088	38.9	38.9	38.9	38.9
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	3	3	6	6	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	3	3	6	6	0.0	0.0	0.0	0.0
Segment SB-5	11,200	11,200	11,200	11,200	100.0	100.0	100.0	100.0
Agricultural/Vacant	6,842	6,842	6,841	6,841	61.1	61.1	61.1	61.1
Silviculture	4,358	4,358	4,358	4,358	38.9	38.9	38.9	38.9
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	0	0	1	1	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	0	0	1	1	0.0	0.0	0.0	0.0
Segment SR-2	34,688	34,688	34,688	34,688	100.0	100.0	100.0	100.0
Agricultural/Vacant	14,443	14,444	14,442	14,442	41.6	41.6	41.6	41.6
Silviculture	20,243	20,243	20,243	20,243	58.4	58.4	58.4	58.4
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	2	1	3	3	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	2	1	3	3	0.0	0.0	0.0	0.0
Segment SR-3	41,856	41,856	41,856	41,856	100.0	100.0	100.0	100.0
Agricultural/Vacant	16,996	16,996	16,994	16,994	40.6	40.6	40.6	40.6
Silviculture	24,425	24,425	24,423	24,423	58.4	58.4	58.4	58.4
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	4	4	8	8	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	4	4	8	8	0.0	0.0	0.0	0.0
Segment SS-5	45,952	45,952	45,952	45,952	100.0	100.0	100.0	100.0
Agricultural/Vacant	34,099	34,074	34,055	34,006	74.2	74.2	74.2	74.0
Silviculture	11,781	11,786	11,780	11,762	25.6	25.6	25.6	25.6
Mining	68	87	106	173	0.2	0.2	0.2	0.4
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	4	5	11	11	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	4	5	11	11	0.0	0.0	0.0	0.0
Segment SS-6	24,512	24,512	24,512	24,512	100.0	100.0	100.0	100.0
Agricultural/Vacant	18,215	18,215	18,212	18,212	74.3	74.3	74.3	74.3
Silviculture	6,294	6,294	6,294	6,294	25.7	25.7	25.7	25.7
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	3	3	6	6	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	3	3	6	6	0.0	0.0	0.0	0.0
Segment SS-13	19,392	19,392	19,392	19,392	100.0	100.0	100.0	100.0
Agricultural/Vacant	9,432	9,432	9,431	9,431	48.6	48.6	48.6	48.6
Silviculture	9,959	9,959	9,959	9,959	51.4	51.4	51.4	51.4
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	1	1	2	2	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	1	1	2	2	0.0	0.0	0.0	0.0

Exhibit A-6t COUNTY AND SEGMENT LAND USE TRENDS & PROJECTIONS - SALT RIVER BASIN 1970-1995 (CONT'D)

Area	Land Area at Year (Acres)				% of Area Inside SRB at Year			
	1970	1975	1980	1995	1970	1975	1980	1995
Nelson County (Cont'd)								
Segment SS-14	3,072	3,072	3,072	3,072	100.0	100.0	100.0	100.0
Agricultural/Vacant	681	681	681	681	22.2	22.2	22.2	22.2
Silviculture	2,391	2,391	2,391	2,391	77.8	77.8	77.8	77.8
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	0	0	0	0	0.0	0.0	0.0	0.0
Oldham County	121,600	121,600	121,600	121,600	-	-	-	-
Outside SRB	84,736	84,736	84,736	84,736	-	-	-	-
Inside SRB	36,864	36,864	36,864	36,864	100.0	100.0	100.0	100.0
Agricultural/Vacant	34,849	34,836	34,837	34,826	94.5	94.5	94.5	94.5
Silviculture	2,000	1,988	1,989	1,988	5.5	5.4	5.4	5.4
Mining	6	12	19	31	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	9	28	19	19	0.0	0.1	0.1	0.0
Urban	0	0	0	0	-	-	-	-
Nonurban	9	28	19	19	-	-	-	-
Segment SF-3	1,088	1,088	1,088	1,088	100.0	100.0	100.0	100.0
Agricultural/Vacant	1,088	1,088	1,088	1,088	100.0	100.0	100.0	100.0
Silviculture	0	0	0	0	0.0	0.0	0.0	0.0
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	0	0	0	0	0.0	0.0	0.0	0.0
Segment SF-4	35,776	35,776	35,776	35,776	100.0	100.0	100.0	100.0
Agricultural/Vacant	33,761	33,748	33,749	33,738	94.4	94.3	94.4	94.3
Silviculture	2,000	9,988	1,989	1,988	5.6	5.5	5.6	5.6
Mining	6	12	19	31	0.0	0.0	0.0	0.1
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	9	28	19	19	0.0	0.1	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	9	28	19	19	0.0	0.1	0.0	0.0
Shelby County	245,760	245,760	245,760	245,760	-	-	-	-
Outside SRB	38,592	38,592	38,592	38,592	-	-	-	-
Inside SRB	207,168	207,168	207,168	207,168	100.0	100.0	100.0	100.0
Agricultural/Vacant	179,300	179,025	178,784	177,927	86.6	86.4	86.3	85.9
Silviculture	26,470	26,515	26,479	26,352	12.8	12.8	12.8	12.7
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	1,353	1,577	1,832	2,816	0.6	0.8	0.9	1.4
Construction	45	51	73	66	0.0	0.0	0.0	0.0
Urban	45	51	66	66	-	-	-	-
Nonurban	0	0	7	7	-	-	-	-
Segment SF-3	19,456	19,456	19,456	19,456	100.0	100.0	100.0	100.0
Agricultural/Vacant	16,968	16,968	16,967	16,967	87.2	87.2	87.2	87.2
Silviculture	2,488	2,488	2,488	2,488	12.8	12.8	12.8	12.8
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	0	0	1	1	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	0	0	1	1	0.0	0.0	0.0	0.0
Segment SF-4	11,200	11,200	11,200	11,200	100.0	100.0	100.0	100.0
Agricultural/Vacant	9,771	9,771	9,771	9,771	87.2	87.2	87.2	87.2
Silviculture	1,429	1,429	1,429	1,429	12.8	12.8	12.8	12.8
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	0	0	0	0	0.0	0.0	0.0	0.0

Exhibit A-6t COUNTY AND SEGMENT LAND USE TRENDS & PROJECTIONS - SALT RIVER BASIN 1970-1995 (CONT'D)

Area	Land Area at Year (Acres)				% of Area Inside SRB at Year			
	1970	1975	1980	1995	1970	1975	1980	1995
Shelby County (Cont'd)								
Segment SS-7	1,024	1,024	1,024	1,024	100.0	100.0	100.0	100.0
Agricultural/Vacant	892	892	892	892	87.1	87.1	87.1	87.1
Silviculture	132	132	132	132	12.9	12.9	12.9	12.9
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	0	0	0	0	0.0	0.0	0.0	0.0
Segment SS-8	7,168	7,168	7,168	7,168	100.0	100.0	100.0	100.0
Agricultural/Vacant	6,242	6,242	6,242	6,242	87.1	87.1	87.1	87.1
Silviculture	926	926	926	926	12.9	12.9	12.9	12.9
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	0	0	0	0	0.0	0.0	0.0	0.0
Segment SS-9	44,096	44,096	44,096	44,096	100.0	100.0	100.0	100.0
Agricultural/Vacant	38,458	38,458	38,458	38,458	87.2	87.2	87.2	87.2
Silviculture	5,638	5,638	5,638	5,638	12.8	12.8	12.8	12.8
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	0	0	2	2	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	0	0	2	2	0.0	0.0	0.0	0.0
Segment SS-10	6,144	6,144	6,144	6,144	100.0	100.0	100.0	100.0
Agricultural/Vacant	5,350	5,350	5,350	5,350	87.1	87.1	87.1	87.1
Silviculture	794	794	794	794	12.9	12.9	12.9	12.9
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	0	0	0	0	0.0	0.0	0.0	0.0
Segment SS-11	33,856	33,856	33,856	33,856	100.0	100.0	100.0	100.0
Agricultural/Vacant	28,143	27,942	27,708	26,854	83.2	82.5	81.8	79.2
Silviculture	4,315	4,286	4,250	4,120	12.7	12.7	12.5	12.1
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	0	0	0	0	0.0	0.0	0.0	0.0
Segment SS-12	57,472	57,472	57,472	57,472	100.0	100.0	100.0	100.0
Agricultural/Vacant	50,140	50,140	50,140	50,140	87.2	87.2	87.2	87.2
Silviculture	7,332	7,332	7,332	7,332	12.8	12.8	12.8	12.8
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	0	0	0	0	0.0	0.0	0.0	0.0
Segment SS-13	25,664	25,664	25,664	25,664	100.0	100.0	100.0	100.0
Agricultural/Vacant	22,382	22,382	22,379	22,379	87.2	87.2	87.1	87.1
Silviculture	3,282	3,282	3,282	3,282	12.8	12.8	12.9	12.9
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	0	0	3	3	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	0	0	3	3	0.0	0.0	0.0	0.0

Exhibit A-6t COUNTY AND SEGMENT LAND USE TRENDS & PROJECTIONS - SALT RIVER BASIN 1970-1995 (CONT'D)

Area	Land Area at Year (Acres)				% of Area Inside SRB at Year			
	1970	1975	1980	1995	1970	1975	1980	1995
Shelby County (Cont'd)								
Segment SS-14	1,088	1,088	1,088	1,088	100.0	100.0	100.0	100.0
Agricultural/Vacant	956	956	955	955	87.9	87.9	87.9	87.9
Silviculture	132	132	132	132	12.1	12.1	12.1	12.1
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	0	0	1	1	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	0	0	1	1	0.0	0.0	0.0	0.0
Spencer County	123,520	123,520	123,520	123,520	-	-	-	-
Outside SRB	0	0	0	0	-	-	-	-
Inside SRB	123,520	123,520	123,520	123,520	100.0	100.0	100.0	100.0
Agricultural/Vacant	98,802	98,902	98,876	98,876	80.1	80.1	80.1	80.1
Silviculture	24,600	24,600	24,600	24,600	19.9	19.9	19.9	19.9
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	18	18	44	44	0.0	0.0	0.0	0.0
Urban	0	0	0	0	-	-	-	-
Nonurban	18	18	44	44	-	-	-	-
Segment SF-1	960	960	960	960	100.0	100.0	100.0	100.0
Agricultural/Vacant	960	960	960	960	100.0	100.0	100.0	100.0
Silviculture	0	0	0	0	0.0	0.0	0.0	0.0
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	0	0	0	0	0.0	0.0	0.0	0.0
Segment SS-4	10,176	10,176	10,176	10,176	100.0	100.0	100.0	100.0
Agricultural/Vacant	7,223	7,223	7,222	7,222	70.9	70.9	70.9	70.9
Silviculture	2,952	2,952	2,952	2,952	29.1	29.1	29.1	29.1
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	1	1	2	2	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	1	1	2	2	0.0	0.0	0.0	0.0
Segment SS-5	5,568	5,568	5,568	5,568	100.0	100.0	100.0	100.0
Agricultural/Vacant	3,968	3,968	3,966	3,966	71.3	71.3	71.3	71.3
Silviculture	1,599	1,599	1,599	1,599	28.7	28.7	28.7	28.7
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	1	1	3	3	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	1	1	3	3	0.0	0.0	0.0	0.0
Segment SS-6	10,176	10,176	10,176	10,176	100.0	100.0	100.0	100.0
Agricultural/Vacant	7,247	7,247	7,245	7,245	71.2	71.2	71.2	71.2
Silviculture	2,927	2,927	2,927	2,927	28.8	28.8	28.8	28.8
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	2	2	4	4	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	2	2	4	4	0.0	0.0	0.0	0.0
Segment SS-7	18,560	18,560	18,560	18,560	100.0	100.0	100.0	100.0
Agricultural/Vacant	18,554	18,555	18,547	18,547	100.0	100.0	100.0	100.0
Silviculture	0	0	0	0	0.0	0.0	0.0	0.0
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	2	2	6	6	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	2	2	6	6	0.0	0.0	0.0	0.0

Exhibit A-6t COUNTY AND SEGMENT LAND USE TRENDS & PROJECTIONS - SALT RIVER BASIN 1970-1995 (CONT'D)

Area	Land Area at Year (Acres)				% of Area Inside SRB at Year			
	1970	1975	1980	1995	1970	1975	1980	1995
Spencer County (Cont'd)								
Segment SS-8	19,520	19,520	19,520	19,520	100.0	100.0	100.0	100.0
Agricultural/Vacant	13,909	13,909	13,907	13,907	71.2	71.2	71.2	71.2
Silviculture	5,609	5,609	5,609	5,609	28.8	28.8	28.8	28.8
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	2	2	4	4	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	2	2	4	4	0.0	0.0	0.0	0.0
Segment SS-12	18,560	18,560	18,560	18,560	100.0	100.0	100.0	100.0
Agricultural/Vacant	18,554	18,555	18,547	18,547	100.0	100.0	100.0	100.0
Silviculture	0	0	0	0	0.0	0.0	0.0	0.0
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	6	5	13	13	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	6	5	13	13	0.0	0.0	0.0	0.0
Segment SS-13	36,288	36,288	36,288	36,288	100.0	100.0	100.0	100.0
Agricultural/Vacant	25,828	25,828	25,821	25,821	71.2	71.2	71.2	71.2
Silviculture	10,455	10,455	10,455	10,455	28.8	28.8	28.8	28.8
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	5	5	12	12	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	5	5	12	12	0.0	0.0	0.0	0.0
Segment SS-14	3,712	3,712	3,712	3,712	100.0	100.0	100.0	100.0
Agricultural/Vacant	2,654	2,654	2,654	2,654	71.5	71.5	71.5	71.5
Silviculture	1,058	1,058	1,058	1,058	28.5	28.5	28.5	28.5
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	0	0	0	0	0.0	0.0	0.0	0.0
Washington County	196,480	196,480	196,480	196,480	-	-	-	-
Outside SRB	0	0	0	0	-	-	-	-
Inside SRB	196,480	196,480	196,480	196,480	100.0	100.0	100.0	100.0
Agricultural/Vacant	148,398	148,332	148,271	148,094	75.5	75.5	75.5	75.4
Silviculture	47,100	47,099	47,080	47,023	24.0	24.0	24.0	23.9
Mining	12	15	18	29	0.0	0.0	0.0	0.0
Urban	958	1,020	1,092	1,315	0.5	0.5	0.5	0.7
Construction	12	14	19	19	0.0	0.0	0.0	0.0
Urban	12	14	15	15	-	-	-	-
Nonurban	0	0	4	4	-	-	-	-
Segment SB-2	89,472	89,472	89,472	89,472	100.0	100.0	100.0	100.0
Agricultural/Vacant	68,042	68,042	68,040	68,040	76.0	76.0	76.0	76.0
Silviculture	21,430	21,430	21,429	21,420	24.0	24.0	24.0	24.0
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	0	0	3	3	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	0	0	3	3	0.0	0.0	0.0	0.0
Segment SB-3	12,352	12,352	12,352	12,352	100.0	100.0	100.0	100.0
Agricultural/Vacant	9,385	9,385	9,385	9,385	75.9	75.9	75.9	75.9
Silviculture	2,967	2,967	2,967	2,967	24.1	24.1	24.1	24.1
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	0	0	0	0	0.0	0.0	0.0	0.0

Exhibit A-6t COUNTY AND SEGMENT LAND USE TRENDS & PROJECTIONS - SALT RIVER BASIN 1970-1995 (CONT'D)

Area	Land Area at Year (Acres)				% of Area Inside SRB at Year			
	1970	1975	1980	1995	1970	1975	1980	1995
Washington County (Cont'd)								
Segment SB-4	40,128	40,128	40,128	40,128	100.0	100.0	100.0	100.0
Agricultural/Vacant	29,538	29,472	29,413	29,236	73.6	73.6	73.4	72.9
Silviculture	9,608	9,607	9,590	9,533	23.9	23.9	23.9	23.7
Mining	12	15	18	29	0.0	0.0	0.0	0.1
Urban	958	1,020	1,092	1,315	2.5	2.5	2.7	3.3
Construction	12	14	15	15	0.0	0.0	0.0	0.0
Urban	12	14	15	15	0.0	0.0	0.0	0.0
Nonurban	0	0	0	0	0.0	0.0	0.0	0.0
Segment SB-5	54,528	54,528	54,528	54,528	100.0	100.0	100.0	100.0
Agricultural/Vacant	41,433	41,433	41,433	41,433	75.9	75.9	75.9	75.9
Silviculture	13,095	13,095	13,094	13,094	24.1	24.1	24.1	24.1
Mining	0	0	0	0	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Construction	0	0	1	1	0.0	0.0	0.0	0.0
Urban	0	0	0	0	0.0	0.0	0.0	0.0
Nonurban	0	0	1	1	0.0	0.0	0.0	0.0

Exhibit A-7.1t SURFACE AREA - SALT RIVER BASIN

County	Surface Area ¹		% of Total	County	Surface Area ¹		% of Total
	Acres	Sq. Mi.			Acres	Sq. Mi.	
Fifteen County Total	3,066,240	4,791.0	100.0	Larue County	166,400	260.0	100.0
Outside SRB	1,133,376	1,770.9	37.0	Outside SRB	69,504	108.6	41.8
Inside SRB	1,932,864	3,020.1	63.0	Inside SRB	96,896	151.4	58.2
Anderson County	131,840	206.0	100.0	Marion County	219,520	343.0	100.0
Outside SRB	19,520	30.5	14.8	Outside SRB	0	0.0	0.0
Inside SRB	112,320	175.5	85.2	Inside SRB	219,520	343.0	100.0
Boyle County	117,760	184.0	100.0	Mercer County	165,760	259.0	100.0
Outside SRB	45,248	70.7	38.4	Outside SRB	59,776	93.4	36.1
Inside SRB	72,512	113.3	61.6	Inside SRB	105,984	165.6	63.9
Bullitt County	192,000	300.0	100.0	Nelson County	279,680	437.0	100.0
Outside SRB	0	0.0	0.0	Outside SRB	0	0.0	0.0
Inside SRB	192,000	300.0	100.0	Inside SRB	279,680	437.0	100.0
Casey County	278,400	435.0	100.0	Oldham County	121,600	190.0	100.0
Outside SRB	230,272	359.8	82.7	Outside SRB	84,736	132.4	69.7
Inside SRB	27,057	75.2	17.3	Inside SRB	36,864	57.6	30.3
Hardin County	394,880	617.0	100.0	Shelby County	245,760	384.0	100.0
Outside SRB	289,280	452.0	73.3	Outside SRB	38,592	60.3	15.7
Inside SRB	105,600	165.0	26.7	Inside SRB	207,168	323.7	84.3
Henry County	184,960	289.0	100.0	Spencer County	123,520	193.0	100.0
Outside SRB	169,600	265.0	91.7	Outside SRB	0	0.0	0.0
Inside SRB	15,360	24.0	8.3	Inside SRB	123,520	193.0	100.0
Jefferson County	247,680	387.0	100.0	Washington County	196,480	307.0	100.0
Outside SRB	126,848	198.2	57.2	Outside SRB	0	0.0	0.0
Inside SRB	120,832	188.8	48.8	Inside SRB	196,480	307.0	100.0

¹Includes land and water areas.

Source: U.S. Department of Commerce, Bureau of the Census, Area Measurement Report, 1970.

Exhibit A-7.2t SURFACE AREA BY COUNTY & SEGMENT - SALT RIVER BASIN (SRB)

Area Designation	Surface Area ¹		% of Kentucky	% of Fifteen County Total	% of SRB	% of County
	Acres	Sq. Mi.				
State of Kentucky	25,852,800	40,395.0	100.0	-	-	-
Fifteen County Total	3,066,240	4,791.0	11.9	100.0	-	-
Outside SRB	1,133,376	1,770.9	4.4	37.0	-	-
Inside SRB	1,932,864	3,020.1	7.5	63.0	100.0	-
Anderson County Total	131,840	206.0	0.5	4.3	-	100.0
Outside SRB	19,520	30.5	0.1	0.6	-	14.8
Inside SRB	112,320	175.5	0.4	3.7	5.8	85.2
Segment SB-5	31,168	48.7	-	1.0	1.6	23.6
Segment SS-14	54,912	85.8	-	1.8	2.8	41.7
Segment SS-15	19,968	31.2	-	0.7	1.0	15.1
Segment SS-16	6,272	9.8	-	0.2	0.3	4.8
Boyle County Total	117,760	184.0	0.5	3.8	-	100.0
Outside SRB	45,248	70.7	0.2	1.5	-	38.4
Inside SRB	72,512	113.3	0.3	2.4	3.8	61.6
Segment SB-5	10,944	17.1	-	0.4	0.6	9.3
Segment SB-6	18,688	29.2	-	0.6	1.0	15.9
Segment SR-5	24,192	37.8	-	0.8	1.3	20.5
Segment SS-17	2,176	3.4	-	0.1	0.1	1.9
Segment SS-18	16,512	25.8	-	0.5	0.8	14.0
Bullitt County Total	192,000	300.0	0.7	6.3	-	100.0
Outside SRB	0	0.0	0.0	0.0	-	0.0
Inside SRB	192,000	300.0	0.7	6.3	9.9	100.0
Segment SF-1	33,472	52.3	-	1.1	1.7	17.4
Segment SP-1	22,400	35.0	-	0.7	1.2	11.7
Segment SP-2	2,048	3.2	-	0.07	0.1	1.1
Segment SR-1	33,472	52.3	-	1.1	1.7	17.4
Segment SR-2	8,128	12.7	-	0.3	0.4	4.2
Segment SS-1	10,176	15.9	-	0.3	0.5	5.3
Segment SS-2	23,360	36.5	-	0.8	1.2	12.2
Segment SS-3	19,328	30.2	-	0.6	1.0	10.1
Segment SS-4	29,440	46.0	-	1.0	1.5	15.3
Segment SS-5	9,152	14.3	-	0.3	0.5	4.8
Segment SS-8	1,024	1.6	-	0.03	0.1	0.5
Casey County Total	278,400	435.0	1.1	9.1	-	100.0
Outside SRB	230,272	359.8	0.9	7.5	-	82.7
Inside SRB	27,057	75.2	0.2	1.6	2.5	17.3
Segment SR-5	27,057	75.2	-	1.6	2.5	17.3
Hardin County Total	394,880	617.0	1.5	12.9	-	100.0
Outside SRB	289,280	452.0	1.1	9.4	-	73.3
Inside SRB	105,600	165.0	0.4	3.4	5.5	26.7
Segment SM-1	19,905	31.1	-	0.7	1.0	5.0
Segment SM-2	22,912	35.8	-	0.7	1.2	5.8
Segment SR-1	20,928	32.7	-	0.7	1.1	5.3
Segment SR-2	31,872	49.8	-	1.0	1.7	8.1
Segment SS-1	9,984	15.6	-	0.3	0.5	2.5
Henry County Total	184,960	289.0	0.7	6.0	-	100.0
Outside SRB	169,600	265.0	0.6	5.5	-	91.7
Inside SRB	15,360	24.0	0.1	0.5	0.8	8.3
Segment SF-4	8,384	13.1	-	0.3	0.4	4.5
Segment SS-9	5,568	8.7	-	0.2	0.3	3.0
Segment SS-10	1,408	2.2	-	0.04	0.1	0.8
Jefferson County Total	247,680	387.0	1.0	8.1	-	100.0
Outside SRB	126,848	198.2	0.5	4.1	-	51.2
Inside SRB	120,832	188.8	0.5	3.9	6.3	48.8
Segment SF-1	23,936	37.4	-	0.8	1.2	9.7
Segment SF-2	11,520	18.0	-	0.37	0.6	4.7
Segment SF-3	33,792	52.8	-	1.1	1.8	13.6
Segment SP-1	4,480	7.0	-	0.1	0.2	1.8
Segment SP-2	46,208	72.2	-	1.5	2.4	18.6
Segment SS-8	896	1.4	-	0.03	0.1	0.4

Exhibit A-7.2t SURFACE AREA BY COUNTY & SEGMENT - SALT RIVER BASIN (SRB) (CONT'D)

Area Designation	Surface Area ¹		% of Kentucky	% of Fifteen County Total	% of SRB	% of County
	Acres	Sq. Mi.				
Larue County Total	166,400	260.0	0.6	5.4	-	100.0
Outside SRB	69,504	108.6	0.3	2.2	-	41.8
Inside SRB	96,896	151.4	0.3	3.2	5.0	58.2
Segment SR-2	27,264	42.6	-	0.9	1.4	16.4
Segment SR-3	69,632	108.8	-	2.3	3.6	41.8
Marion County Total	219,520	343.0	0.8	7.2	-	100.0
Outside SRB	0	0.0	0.0	0.0	-	0.0
Inside SRB	219,520	343.0	0.8	7.2	11.4	100.0
Segment SB-2	24,064	37.6	-	0.8	1.2	11.0
Segment SB-3	28,096	43.9	-	0.9	1.5	12.8
Segment SB-4	15,040	23.5	-	0.5	0.8	6.9
Segment SR-3	25,024	39.1	-	0.8	1.3	11.4
Segment SR-4	86,208	134.7	-	2.8	4.5	39.3
Segment SR-5	41,088	64.2	-	1.4	2.1	18.7
Mercer County Total	165,760	259.0	0.6	5.4	-	100.0
Outside SRB	59,776	93.4	0.2	1.9	-	36.1
Inside SRB	105,984	165.6	0.4	3.5	5.5	63.9
Segment SB-5	47,680	74.5	-	1.6	2.5	28.7
Segment SS-16	8,448	13.2	-	0.3	0.4	5.1
Segment SS-17	49,856	77.9	-	1.6	2.6	30.1
Nelson County Total	279,680	437.0	1.1	9.1	-	100.0
Outside SRB	0	0.0	0.0	0.0	-	0.0
Inside SRB	279,680	437.0	1.1	9.1	14.5	100.0
Segment SB-1	60,224	94.1	-	1.9	3.1	21.5
Segment SB-2	38,784	60.6	-	1.3	2.0	13.9
Segment SB-5	11,200	17.5	-	0.4	0.6	4.0
Segment SR-2	34,688	54.2	-	1.1	1.8	12.4
Segment SR-3	41,856	65.4	-	1.4	2.2	15.0
Segment SS-5	45,952	71.8	-	1.5	2.4	16.4
Segment SS-6	24,512	38.3	-	0.8	1.3	8.8
Segment SS-13	19,392	30.3	-	0.6	1.0	6.9
Segment SS-14	3,072	4.8	-	0.1	0.1	1.1
Oldham County Total	121,600	190.0	0.5	4.0	-	100.0
Outside SRB	84,736	132.4	0.3	2.8	-	69.7
Inside SRB	36,864	57.6	0.2	1.2	1.9	30.3
Segment SF-3	1,088	1.7	-	0.04	0.1	0.9
Segment SF-4	35,776	55.9	-	1.16	1.8	29.4
Shelby County Total	245,760	384.0	1.0	8.0	-	100.0
Outside SRB	38,592	60.3	0.2	1.3	-	15.7
Inside SRB	207,168	323.7	0.8	6.7	10.72	84.3
Segment SF-3	19,456	30.4	-	0.6	1.01	7.9
Segment SF-4	11,200	17.5	-	0.4	0.58	4.6
Segment SS-7	1,024	1.6	-	0.03	0.05	0.4
Segment SS-8	7,168	11.2	-	0.23	0.37	2.9
Segment SS-9	44,096	68.9	-	1.4	2.28	17.9
Segment SS-10	6,144	9.6	-	0.2	0.32	2.5
Segment SS-11	33,856	52.9	-	1.1	1.75	13.8
Segment SS-12	57,472	89.8	-	1.9	2.97	23.4
Segment SS-13	25,664	40.1	-	0.8	1.33	10.4
Segment SS-14	1,088	1.7	-	0.04	0.06	0.4
Spencer County Total	123,520	193.0	0.5	4.0	-	100.0
Outside SRB	0	0.0	0.0	0.0	-	0.0
Inside SRB	123,520	193.0	0.5	4.0	-	0.0
Segment SF-1	960	1.5	-	0.03	0.1	0.8
Segment SS-4	10,176	15.9	-	0.33	0.5	8.2
Segment SS-5	5,568	8.7	-	0.2	0.3	4.5
Segment SS-6	10,176	15.9	-	0.33	0.5	8.2
Segment SS-7	18,560	29.0	-	0.61	1.0	15.0
Segment SS-8	19,520	30.5	-	0.6	1.0	15.8
Segment SS-12	18,560	29.0	-	0.6	1.0	15.0
Segment SS-13	36,288	56.7	-	1.2	1.9	29.4
Segment SS-14	3,712	5.8	-	0.1	0.2	3.1

Exhibit A-7.2t SURFACE AREA BY COUNTY & SEGMENT - SALT RIVER BASIN (SRB) (CONT'D)

Area Designation	Surface Area ¹		% of Kentucky	% of Fifteen County Total	% of SRB	% of County
	Acres	Sq. Mi.				
Washington County Total	196,480	307.0	0.8	6.4	-	100.0
Outside SRB	0	0.0	0.0	0.0	-	0.0
Inside SRB	196,480	307.0	0.8	6.4	10.2	100.0
Segment SB-2	89,472	139.8	-	2.9	4.6	45.5
Segment SB-3	12,352	19.3	-	0.4	0.6	6.3
Segment SB-4	40,128	62.7	-	1.3	2.1	20.4
Segment SB-5	54,528	85.2	-	1.8	2.8	27.8

¹Includes land and water areas.

Source: U. S. Department of Commerce, Bureau of the Census, Area Measurement Report, 1970.

SALT RIVER BASIN

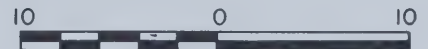


EXHIBIT 5.5m

RELATIONSHIP TO OTHER PLANS

LEGEND

-  201 Area
-  208 Area
-  Army Corps of Engineers (completed)
-  Army Corps of Engineers (under const.)
-  Army Corps of Engineers (authorized)
-  Watershed Project (completed)
-  Watershed Project (under const.)



SCALE IN MILES

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1. Towardtown Lake Project
2. Towardtown Channel Project
3. Campground Lake Project
4. Lebanon Junction Local Protection Project
5. Shepherdsville Local Protection Project
6. Plum Creek Snagging & Clearing Project
7. Taylorsville Local Protection Project
8. Taylorsville Lake Project
9. Plum Creek Watershed Proj.
10. Plum Creek Watershed Proj.
11. Bullskin Creek Watershed Project

SALT RIVER BASIN



EXHIBIT 5.5m

RELATIONSHIP TO OTHER PLANS

LEGEND

- 201 Area
- 208 Area
- Army Corps of Engineers (completed)
- Army Corps of Engineers (under const.)
- Army Corps of Engineers (authorized)
- Watershed Project (completed)
- Watershed Project (under const.)



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EXHIBIT B-1.1m

SEGMENT MAP

(SP-01, SP-02, SF-01, SF-02,
SF-03, SF-04)

LEGEND

SP-1 Segment Number

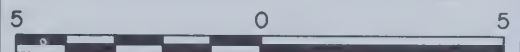
• Domestic Discharger

← $\frac{M}{2}$ Municipal Discharger

← $\frac{I}{2}$ Industrial Discharger

← $\frac{L}{D}$ Landfills,
Dumps &
Junk Yards

See Exhibit 4.7m Part II for
listing of Domestic Dischargers



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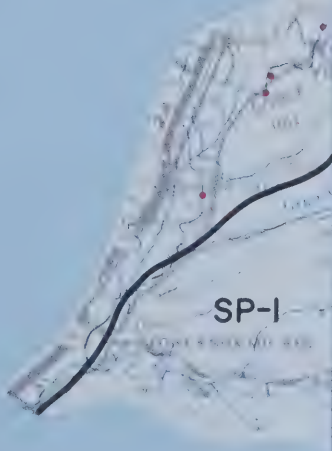




EXHIBIT B-1.1m

SEGMENT MAP

(SP-01, SP-02, SF-01, SF-02, SF-03, SF-04)

LEGEND

SP-1 Segment Number

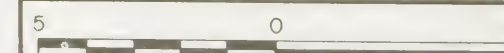
• Domestic Discharger

Municipal Discharger

Industrial Discharger

Landfills, Dumps & Junk Yards

See Exhibit 4.7m Part II for listing of Domestic Dischargers



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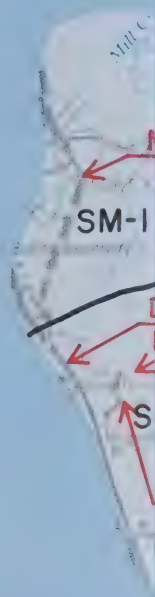


EXHIBIT B-2.1m

SEGMENT MAP

(SM-01, SM-02, SR-01,
SR-02, SR-03)

LEGEND

SP-1 Segment Number

Domestic Discharger

Municipal Discharger

Industrial Discharger

Landfills, Dumps & Junk Yards



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EXHIBIT B-2.1m

SEGMENT MAP

(SM-01, SM-02, SR-01,
SR-02, SR-03)

LEGEND

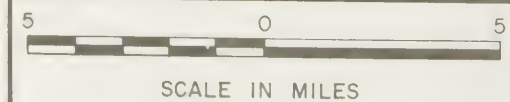
SP-1 Segment Number

Domestic Discharger

Municipal Discharger

Industrial Discharger

Landfills, Dumps & Junk Yards



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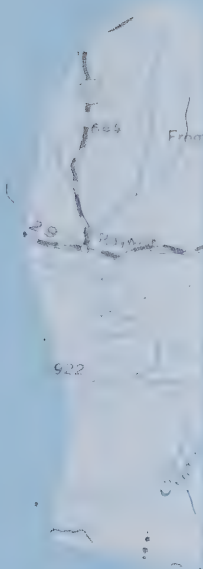


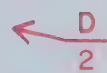
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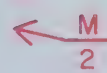
SEGMENT MAP

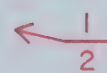
(SR-04, SR-05)

LEGEND

SP-1 Segment Number

 Domestic Discharger

 Municipal Discharger

 Industrial Discharger

 Landfills, Dumps & Junk Yards



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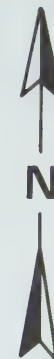


EXHIBIT B-3.1m

SEGMENT MAP

(SR-04, SR-05)

LEGEND

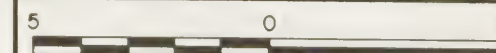
SP-1 Segment Number

Domestic Discharger

Municipal Discharger

Industrial Discharger

Landfills, Dumps & Junk Yards



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EXHIBIT B-4.1m

SEGMENT MAP

(SB-01, SB-02, SB-03, SB-04,
SB-05, SB-06)

LEGEND

SP-1 Segment Number

 Domestic
Discharger

 Municipal
Discharger

 Industrial
Discharger

 Landfills,
Dumps &
Junk Yards



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EXHIBIT B-4.1m

SEGMENT MAP

(SB-01, SB-02, SB-03, SB-04, SB-05, SB-06)

LEGEND

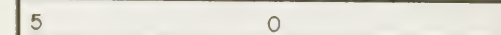
SP-1 Segment Number

Domestic Discharger

Municipal Discharger

Industrial Discharger

Landfills, Dumps & Junk Yards



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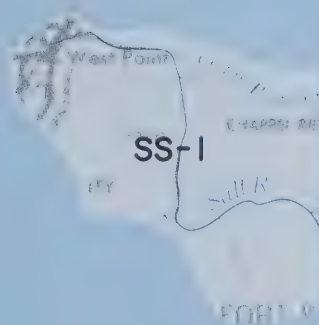


EXHIBIT B-5.1m

SEGMENT MAP

(SS-01, SS-02, SS-03, SS-04,
SS-05, SS-06, SS-07, SS-08)

LEGEND

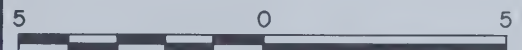
SP-1 Segment Number

Domestic Discharger

Municipal Discharger

Industrial Discharger

Landfills, Dumps & Junk Yards



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EXHIBIT B-5.1m

SEGMENT MAP

(SS-01, SS-02, SS-03, SS-04,
SS-05, SS-06, SS-07, SS-08)

LEGEND

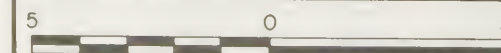
SP-1 Segment Number

Domestic Discharger

Municipal Discharger

Industrial Discharger

Landfills, Dumps & Junk Yards



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EXHIBIT B-6.1m

SEGMENT MAP

(SS-09, SS-10, SS-11, SS-12)

LEGEND

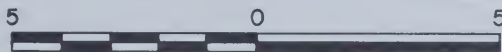
SP-1 Segment Number

Domestic Discharger

Municipal Discharger

Industrial Discharger

Landfills, Dumps & Junk Yards



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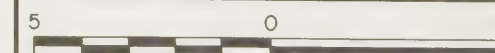
EXHIBIT B-6.1m

SEGMENT MAP

(SS-09, SS-10, SS-11, SS-12)

LEGEND

- SP-1 Segment Number
-  Domestic Discharger
-  Municipal Discharger
-  Industrial Discharger
-  Landfills, Dumps & Junk Yards



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EXHIBIT B-7.1m

SEGMENT MAP

(SS-13, SS-14, SS-15, SS-16,
SS-17, SS-18)

LEGEND

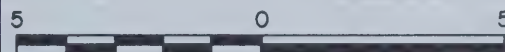
SP-1 Segment Number

← $\frac{D}{2}$ Domestic Discharger

← $\frac{M}{2}$ Municipal Discharger

← $\frac{I}{2}$ Industrial Discharger

← $\frac{L}{2}$ Landfills, Dumps & Junk Yards



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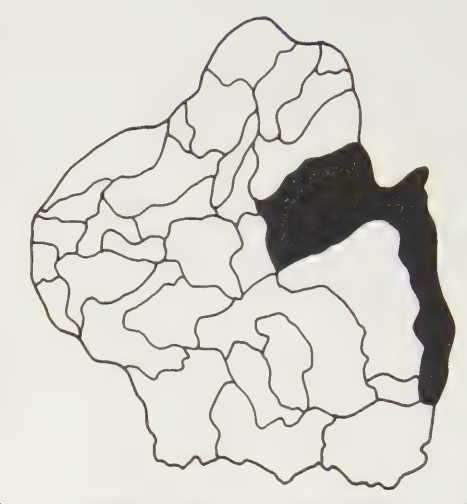


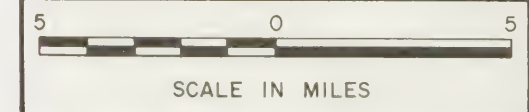
EXHIBIT B-7.1m

SEGMENT MAP

(SS-13, SS-14, SS-15, SS-16, SS-17, SS-18)

LEGEND

- | | |
|------|-------------------------------|
| SP-1 | Segment Number |
| | Domestic Discharger |
| | Municipal Discharger |
| | Industrial Discharger |
| | Landfills, Dumps & Junk Yards |



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APPENDIX B

APPENDIX B--SEGMENT ANALYSIS

Appendix B presents the water quality management data by segment or area, and includes a brief narrative description of each segment. There are seven area maps which group segments as follows:

Area Map	Segments
Exhibit 1.1m	SP-01, SP-02, SF-01, SF-02, SF-03, SF-04
Exhibit 2.1m	SM-01, SM-02, SR-01, SR-02, SR-03,
Exhibit 3.1m	SR-04, SR-05
Exhibit 4.1m	SB-01, SB-02, SB-03, SB-04, SB-05, SB-06, SB-07, SB-08
Exhibit 5.1m	SS-01, SS-02, SS-03, SS-04, SS-05, SS-06, SS-07, SS-08
Exhibit 6.1m	SS-09, SS-10, SS-11, SS-12
Exhibit 7.1m	SS-13, SS-14, SS-15, SS-16, SS-17, SS-18.

Each segment is identified by two letters, the first letter signifies the Salt River basin, and the second letter identifies the main stream through the segment as follows:

SP - Pond Creek
 SM - Mill Creek
 SR - Rolling Fork
 SB - Beach Fork
 SS - Salt River.

For each of the 37 segments, a basic planning table is given as part of the text and is labeled B-1.2t through B-37.2t. Water quality data in the Salt River Basin are given in Exhibits 1.3t through 3.3t. There are seven tables (corresponding to the seven area maps) which group existing wastewater discharges (Exhibits 1.4t through 7.4t) and wasteload allocations (Exhibits 1.5t through 7.5t). Municipal needs are given in Exhibits 1.6t through 7.6t. Even though maps and tables are grouped together, each segment is identified within the map or table.

Alternative water quality management plans for the segments are described in the text for each segment. However, because of the few and scattered number of sources within the majority of the segments, the feasibility of combining or eliminating sources is probably not feasible for most of the segments.

Segment SP-01

Segment SP-01 is located in the western portion of Salt River Basin and Knob Creek is the main stream flowing through the segment as illustrated in Exhibit B-1.1m. The segment has a 1975 population of 0 and no municipalities are eligible for sewer construction grants. There are five point sources in the segment. The maximum daily load for the segment is 0.00 TOD (pounds per day).

Basic planning data for the segment including population, housing units, employment, and land use are summarized in Exhibit B-1.2t.

Exhibit B-1.2t BASIC PLANNING DATA

Segment SP-01	1970	1975	1980	1995
Population				
(Total)	0	0	0	0
Urban	0	0	0	0
Rural	0	0	0	0
Farm	0	0	0	0
Nonfarm	0	0	0	0
Housing Units				
(Total)	0	0	0	0
Urban	0	0	0	0
Rural	0	0	0	0
Farm	0	0	0	0
Nonfarm	0	0	0	0
Employment				
(Total)	0	0	0	0
Land Use				
(Total)	26,880	26,880	26,880	26,880
Urban	0	0	0	0
Nonurban	26,880	26,880	26,880	26,880

The length of the main stream through the segment is 17.0 miles, and the average slope of the main stream is 18.0 feet per mile. The average Q7-10 values for the segment is 0.0 cubic feet per second.

Point sources and their existing wastewater discharge characteristics, location, and treatment types are listed in Exhibit B-1.4t. Wasteload allocations for 1980 for the point sources are listed in Exhibit B-1.5t; construction grant priorities are given for eligible municipalities, and segment priorities are given for domestic and industrial sources.

Exhibit B-1.6t summarizes the principal treatment levels required to meet water quality standards; disposal needs; total cost needs for treatment, infiltration/inflow corrections, interceptors, collectors, and combined sewers; and compliance goals.

Segment SP-02

Segment SP-02 is located in the western portion of Salt River Basin and Pond Creek is the main stream flowing through the segment as illustrated in Exhibit B-1.1m. The segment has a 1975 population of 146,382 and 10 municipalities are eligible for sewer construction grants. There are 160 point sources in the segment. The maximum daily load for the segment is 2,122.86 TOD (pounds per day).

Basic planning data for the segment including population, housing units, employment, and land use are summarized in Exhibit B-2.2t.

Exhibit B-2.2t BASIC PLANNING DATA

Segment SP-02	1970	1975	1980	1995
Population				
(Total)	127,272	146,382	166,646	215,425
Urban	125,079	143,710	163,339	215,425
Rural	0	0	0	0
Farm	314	383	474	0
Nonfarm	1,879	2,289	2,833	0
Housing Units				
(Total)	49,990	47,122	53,632	69,254
Urban	40,348	46,358	52,690	69,254
Farm	92	111	135	0
Nonfarm	550	653	807	0
Employment				
(Total)	89,373	112,593	131,910	170,641
Land Use				
(Total)	48,256	48,256	48,256	48,256
Urban	40,479	42,702	43,283	43,354
Nonurban	7,773	5,554	4,973	4,902

The length of the main stream through the segment is 29.5 miles, and the average slope of the main stream is 9.0 feet per mile. The average Q7-10 values for the segment is 0.0 cubic feet per second.

Point sources and their existing wastewater discharge characteristics, location, and treatment types are listed in Exhibit B-1.4t. Wasteload allocations for 1980 for the point sources are listed in Exhibit B-1.5t; construction grant priorities are given for eligible municipalities, and segment priorities are given for domestic and industrial sources.

Exhibit B-1.6t summarizes the principal treatment levels required to meet water quality standards; disposal needs; total cost needs for treatment, infiltration/inflow corrections, interceptors, collectors, and combined sewers; and compliance goals.

Segment SF-01

Segment SF-01 is located in the midwestern portion of the Salt River Basin and Floyds Fork is the main stream flowing through the segment as illustrated in Exhibit B-1.1m. The segment has a 1975 population of 24,100 and one municipality is eligible for sewer construction grants. There are 46 point sources in the segment. The maximum daily load for the segment is 495.39 TOD (pounds per day).

Basic planning data for the segment including population, housing units, employment, and land use are summarized in Exhibit B-3.2t.

Exhibit B-3.2t BASIC PLANNING DATA

Segment SF-01	1970	1975	1980	1995
Population				
(Total)	23,102	24,100	25,285	48,770
Urban	0	2,650	4,000	26,057
Rural	23,102	21,450	21,285	22,713
Farm	4,377	3,972	3,702	3,395
Nonfarm	18,725	17,478	17,583	19,318
Housing Units				
(Total)	7,397	8,007	8,258	15,201
Urban	0	884	1,140	7,424
Rural	7,397	7,123	7,118	7,777
Farm	1,432	1,359	1,259	1,166
Nonfarm	5,965	5,764	5,859	6,611
Employment				
(Total)	8,998	9,913	16,493	27,288
Land Use				
(Total)	58,368	58,368	58,368	58,368
Urban	0	858	1,294	11,950
Nonurban	58,368	35,510	57,074	46,418

The length of the main stream through the segment is 24 miles, and the average slope of the main stream is 3.5 feet per mile. The average Q7-10 values for the segment is 0.0 cubic feet per second.

Point sources and their existing wastewater discharge characteristics, location, and treatment types are listed in Exhibit B-1.4t. Wasteload allocations for 1980 for the point sources are listed in Exhibit B-1.5t; construction grant priorities are given for eligible municipalities, and segment priorities are given for domestic and industrial sources.

Exhibit B-1.6t summarizes the principal treatment levels required to meet water quality standards; disposal needs; total cost needs for treatment, infiltration/inflow corrections, interceptors, collectors, and combined sewers; and compliance goals.

Segment SF-02

Segment SF-02 is located in the midwestern portion of the Salt River Basin and Chenoweth Run is the main stream flowing through the segment as illustrated in Exhibit B-1.1m. The segment has a 1975 population of 15,917 and one municipality is eligible for sewer construction grants. There are 12 point sources in the segment. The maximum daily load for the segment is 341.27 TOD (pounds per day).

Basic planning data for the segment including population, housing units, employment, and land use are summarized in Exhibit B-4.2t.

Exhibit B-4.2t BASIC PLANNING DATA

Segment SF-02	1970	1975	1980	1995
Population				
(Total)	14,458	15,917	20,464	31,996
Urban	7,701	15,123	19,443	31,695
Rural	1,757	794	1,021	301
Farm	418	173	197	46
Nonfarm	1,339	621	824	255
Housing Units				
(Total)	3,742	5,170	6,645	10,332
Urban	3,124	4,878	6,272	10,220
Rural	613	292	373	112
Farm	146	64	72	17
Nonfarm	467	228	301	95
Employment				
(Total)	8,018	9,667	14,995	24,032
Land Use				
(Total)	11,520	11,520	11,520	11,520
Urban	3,139	5,278	7,574	11,256
Nonurban	8,381	6,242	3,946	264

The length of the main stream through the segment is 8.5 miles, and the average slope of the main stream is 18.0 feet per mile. The average Q7-10 values for the segment is 0.0 cubic feet per second.

Point sources and their existing wastewater discharge characteristics, location, and treatment types are listed in Exhibit B-1.4t. Wasteload allocations for 1980 for the point sources are listed in Exhibit B-1.5t; construction grant priorities are given for eligible municipalities, and grant priorities are given for domestic and industrial sources.

Exhibit B-1.6t summarizes the principal treatment levels required to meet water quality standards; disposal needs; total cost needs for treatment, infiltration/inflow corrections, interceptors, and combined sewers; and compliance goals.

Segment SF-03

Segment SF-03 is located in the midwestern portion of the Salt River Basin and Floyds Fork is the main stream flowing through the segment as illustrated in Exhibit B-1.1m. The segment has a 1975 population of 16,362 and one municipality is eligible for sewer construction grants. There are 42 point sources in the segment. The maximum daily load for the segment is 209.83 TOD (pounds per day).

Basic planning data for the segment including population, housing units, employment, and land use are summarized in Exhibit B-5.2t.

Exhibit B-5.2t BASIC PLANNING DATA

Segment SF-03	1970	1975	1980	1995
Population				
(Total)	12,582	16,362	20,249	30,021
Urban	4,944	7,708	12,439	20,277
Rural	7,638	8,654	7,810	9,744
Farm	1,965	2,051	1,699	1,733
Nonfarm	5,673	6,603	6,111	8,011
Housing Units				
(Total)	4,243	5,644	6,843	10,133
Urban	1,595	2,487	4,013	6,542
Rural	2,648	3,157	2,830	3,591
Farm	667	736	609	629
Nonfarm	1,981	2,421	2,221	2,962
Employment				
(Total)	8,527	10,317	14,524	22,251
Land Use				
(Total)	54,336	54,336	54,336	54,336
Urban	1,600	5,916	12,321	26,334
Nonurban	52,736	48,420	42,015	28,002

The length of the main stream through the segment is 21.0 miles, and the average slope of the main stream is 6.0 feet per mile. The average Q7-10 values for the segment is 0.0 cubic feet per second.

Point sources and their existing wastewater discharge characteristics, location, and treatment types are listed in Exhibit B-1.4t. Wasteload allocations for 1980 for the point sources are listed in Exhibit B-1.5t; construction grant priorities are given for eligible municipalities, and segment priorities are given for domestic and industrial sources.

Exhibit B-1.6t summarizes the principal treatment levels required to meet water quality standards; disposal needs; total cost needs for treatment, infiltration/inflow corrections, interceptors, and combined sewers; and compliance goals.

Segment SF-04

Segment SF-04 is located in the northern portion of Salt River Basin and Floyds Fork is the main stream flowing through the segment, as illustrated in Exhibit B-1.1m. The segment has a 1975 population of 3,618 and two municipalities are eligible for sewer construction grants. There are four point sources in the segment. The maximum daily load for the segment is 27.19 TOD (pounds per day).

Basic planning data for the segment including population, housing units, employment, and land use are summarized in Exhibit B-6.2t.

Exhibit B-6.2t BASIC PLANNING DATA

Segment SF-04	1970	1975	1980	1995
Population				
(Total)	3,269	3,618	4,047	5,855
Urban	0	0	0	0
Rural	3,269	3,618	4,047	5,855
Farm	802	813	826	868
Nonfarm	2,467	2,805	3,221	4,987
Housing Units				
(Total)	981	1,085	1,406	2,035
Urban	0	0	0	0
Rural	981	1,085	1,406	2,035
Farm	228	243	285	299
Nonfarm	753	842	1,121	1,736
Employment				
(Total)	614	1,188	1,705	2,658
Land Use				
(Total)	55,360	55,360	55,360	55,360
Urban	0	0	0	0
Nonurban	55,360	55,360	55,360	55,360

The length of the main stream through the segment is 13.0 miles, and the average slope of the main stream is 17.0 feet per mile. The average Q7-10 values for the segment is 0.0 cubic feet per second.

Point sources and their existing wastewater discharge characteristics, location, and treatment types are listed in Exhibit B-1.4t. Wasteload allocations for 1980 for the point sources are listed in Exhibit B-1.5t; construction grant priorities are given for eligible municipalities, and segment priorities are given for domestic and industrial sources.

Exhibit B-1.6t summarizes the principal treatment levels required to meet water quality standards; disposal needs; total cost needs for treatment, infiltration/inflow corrections, interceptors, and combined sewers; and compliance goals.

Segment SM-01

Segment SM-01 is located in the western portion of the Salt River Basin and Mill Creek is the main stream flowing through the segment, as illustrated in Exhibit B-2.1m. The segment has a 1975 population of 30,756 and two municipalities are eligible for sewer construction grants. There is one point source in the segment. The maximum daily load for the segment is 667.20 TOD (pounds per day).

Basic planning data for the segment including population, housing units, employment, and land use are summarized in Exhibit B-7.2t.

Exhibit B-7.2t BASIC PLANNING DATA

Segment SM-01	1970	1975	1980	1995
Population				
(Total)	30,620	30,756	32,795	38,659
Urban	30,620	30,756	32,795	38,659
Rural	0	0	0	0
Farm	0	0	0	0
Nonfarm	0	0	0	0
Housing Units				
(Total)	5,595	7,217	7,699	9,076
Urban	5,595	7,217	7,699	9,076
Rural	0	0	0	0
Farm	0	0	0	0
Nonfarm	0	0	0	0
Employment				
(Total)	4,762	5,266	5,996	8,708
Land Use				
(Total)	19,905	19,905	19,905	19,905
Urban	9,909	9,953	10,613	12,511
Nonurban	9,906	9,952	9,292	7,394

The length of the main stream through the segment is 12.0 miles, and the average slope of the main stream is 3.0 feet per mile. The average Q7-10 values for the segment is 0.0 cubic feet per second.

Point sources and their existing wastewater discharge characteristics, location, and treatment types are listed in Exhibit B-2.4t. Wasteload allocations for 1980 for the point sources are listed in Exhibit B-2.5t; construction grant priorities are given for eligible municipalities, and segment priorities are given for domestic and industrial sources.

Exhibit B-1.6t summarizes the principal treatment levels required to meet water quality standards; disposal needs; total cost needs for treatment, infiltration/inflow corrections, interceptors, collectors, and combined sewers; and compliance goals.

Segment SM-02

Segment SM-02 is located in the southwestern portion of the Salt River Basin and Mill Creek is the main stream flowing through the segment, as illustrated in Exhibit B-2.1m. The segment has a 1975 population of 12,758 and one municipality is eligible for sewer construction grants. There are four point sources in the segment. The maximum daily load for the segment is 226.85 TOD (pounds per day).

Basic planning data for the segment including population, housing units, employment, and land use are summarized in Exhibit B-8.2t.

Exhibit B-8.2t BASIC PLANNING DATA

Segment SM-02	1970	1975	1980	1995
Population				
(Total)	12,701	12,758	13,604	16,036
Urban	9,012	9,053	9,654	11,380
Rural	3,689	3,705	3,950	4,656
Farm	1,094	1,039	928	843
Nonfarm	2,595	2,666	3,022	3,813
Housing Units				
(Total)	3,905	2,993	3,193	3,764
Urban	3,097	2,124	2,266	2,671
Rural	808	861	927	1,093
Farm	239	2,124	260	306
Nonfarm	569	869	667	787
Employment				
(Total)	1,975	2,184	2,487	3,613
Land Use				
(Total)	22,912	22,912	22,912	22,912
Urban	2,917	2,930	3,124	3,683
Nonurban	19,995	19,982	19,788	19,229

The length of the main stream through the segment is 7.5 miles, and the average slope of the main stream is 23.0 feet per mile. The average Q7-10 values for the segment is 0.0 cubic feet per second.

Point sources and their existing wastewater discharge characteristics, location, and treatment types are listed in Exhibit B-2.4t. Wasteload allocations for 1980 for the point sources are listed in Exhibit B-2.5t; construction grant priorities are given for eligible municipalities, and segment priorities are given for domestic and industrial sources.

Exhibit B-1.6t summarizes the principal treatment levels required to meet water quality standards; disposal needs; total cost needs for treatment, infiltration/inflow corrections, interceptors, collectors, and combined sewers; and compliance goals.

Segment SR-01

Segment SR-01 is located in the midwestern portion of the Salt River Basin and Rolling Fork is the main stream flowing through the segment, as illustrated in Exhibit B-2.1m. The segment has a 1975 population of 3,567 and one municipality is eligible for sewer construction grants. There are five point sources in the segment. The maximum daily load for the segment is 49.54 TOD (pounds per day).

Basic planning data for the segment including population, housing units, employment, and land use are summarized in Exhibit B-9.2t.

Exhibit B-9.2t BASIC PLANNING DATA

Segment SR-01	1970	1975	1980	1995
Population				
(Total)	2,966	3,567	4,355	4,417
Urban	0	0	0	0
Rural	2,966	3,567	4,355	4,417
Farm	474	556	656	648
Nonfarm	2,492	3,011	3,699	3,769
Housing Units				
(Total)	846	1,003	1,224	1,238
Urban	0	0	0	0
Rural	846	1,003	1,224	1,238
Farm	132	156	186	190
Nonfarm	714	847	1,038	1,048
Employment				
(Total)	314	916	1,609	3,656
Land Use				
(Total)	54,400	54,400	54,400	54,400
Urban	0	0	0	0
Nonurban	54,400	54,400	54,400	54,400

The length of the main stream through the segment is 10.5 miles, and the average slope of the main stream is 2.0 feet per mile. The average Q7-10 values for the segment is 1.8 cubic feet per second.

Point sources and their existing wastewater discharge characteristics, location, and treatment types are listed in Exhibit B-2.4t. Wasteload allocations for 1980 for the point sources are listed in Exhibit B-2.5t; construction grant priorities are given for eligible municipalities, and segment priorities are given for domestic and industrial sources.

Exhibit B-1.6 t summarizes the principal treatment levels required to meet water quality standards; disposal needs; total cost needs for treatment, infiltration/inflow corrections, interceptors, collectors, and combined sewers; and compliance goals.

Segment SR-02

Segment SR-02 is located in the southwestern portion of the Salt River Basin and Rolling Fork is the main stream flowing through the segment as illustrated in Exhibit B-2.1m. The segment has a 1975 population of 3,213 and one municipality is eligible for sewer construction grants. There are three point sources in the segment. The maximum daily load for the segment is 52.04 TOD (pounds per day).

Basin planning data for the segment including population, housing units, employment, and land use are summarized in Exhibit B-10.2t.

Exhibit B-10.2t BASIC PLANNING DATA

Segment SR-02	1970	1975	1980	1995
Population				
(Total)	3,116	3,213	3,450	4,117
Urban	0	0	0	0
Rural	3,116	3,213	3,450	4,117
Farm	926	881	814	691
Nonfarm	2,190	2,332	2,636	3,426
Housing Units				
(Total)	769	829	897	1,066
Urban	0	0	0	0
Rural	769	829	897	1,066
Farm	215	226	245	229
Nonfarm	554	603	652	837
Employment				
(Total)	519	665	827	1,325
Land Use				
(Total)	101,952	101,952	101,952	101,952
Urban	0	0	0	0
Nonurban	101,952	101,952	101,952	101,952

The length of the main stream through the segment is 29.0 miles, and the average slope of the main stream is 3.0 feet per mile. The average Q7-10 values for the segment is 1.6 cubic feet per second.

Point sources and their existing wastewater discharge characteristics, location, and treatment types are listed in Exhibit B-2.4t. Wasteload allocations for 1980 for the point sources are listed in Exhibit B-2.5t; construction grant priorities are given for eligible municipalities, and segment priorities are given for domestic and industrial sources.

Exhibit B-1.6t summarizes the principal treatment levels required to meet water quality standards; disposal needs; total cost needs for treatment, infiltration/inflow corrections, interceptors, collectors, and combined sewers; and compliance goals.

Segment SR-03

Segment SR-03 is located in the southwestern portion of the Salt River Basin and Rolling Fork is the main stream flowing through the segment as illustrated in Exhibit B-2.1m. The segment has a 1975 population of 7,463 and no municipalities are eligible for sewer construction grants. There are two point sources in the segment. The maximum daily load for the segment is 65.22 TOD (pounds per day).

Basic planning data for the segment including population, housing units, employment, and land use are summarized in Exhibit B-11.2t.

Exhibit B-11.2t BASIC PLANNING DATA

Segment SR-03	1970	1975	1980	1995
Population				
(Total)	7,198	7,463	7,829	9,171
Urban	0	0	0	0
Rural	7,198	7,463	7,829	9,171
Farm	3,520	3,542	3,608	3,852
Nonfarm	3,678	3,921	4,221	5,317
Housing Units				
(Total)	2,054	2,183	2,318	2,705
Urban	0	0	0	0
Rural	2,054	2,183	2,318	2,705
Farm	962	1,043	1,125	1,172
Nonfarm	1,091	1,140	1,193	1,533
Employment				
(Total)	1,355	1,646	2,046	3,082
Land Use				
(Total)	136,242	136,242	136,242	136,242
Urban	0	0	0	0
Nonurban	136,242	136,242	136,242	136,242

The length of the main stream through the segment is 46.0 miles, and the average slope of the main stream is 4.5 feet per mile. The average Q7-10 values for the segment is 0.6 cubic feet per second.

Point sources and their existing wastewater discharge characteristics, location, and treatment types are listed in Exhibit B-2.4t. Wasteload allocations for 1980 for the point sources are listed in Exhibit B-2.5t; construction grant priorities are given for eligible municipalities, and segment priorities are given for domestic and industrial sources.

Exhibit B-1.6t summarizes the principal treatment levels required to meet water quality standards; disposal needs; total cost needs for treatment, infiltration/inflow corrections, interceptors, collectors, and combined sewers; and compliance goals.

Segment SR-04

Segment SR-04 is located in the southern portion of the Salt River Basin and Rolling Fork is the main stream flowing through the segment as illustrated in Exhibit B-3.1m. The segment has a 1975 population of 2,913 and no municipalities are eligible for sewer construction grants. There is one point source in the segment. The maximum daily load for the segment is 25.35 TOD (pounds per day).

Basic planning data for the segment including population, housing units, employment, and land use are summarized in Exhibit B-12.2t.

Exhibit B-12.2t BASIC PLANNING DATA

Segment SR-04	1970	1975	1980	1995
Population				
(Total)	2,801	2,913	3,051	3,560
Urban	0	0	0	0
Rural	2,801	2,913	3,051	3,560
Farm	1,351	1,405	1,472	1,717
Nonfarm	1,450	1,508	1,579	1,843
Housing Units				
(Total)	756	806	855	997
Urban	0	0	0	0
Rural	756	806	855	997
Farm	344	378	412	481
Nonfarm	412	428	443	516
Employment				
(Total)	474	623	782	1,178
Land Use				
(Total)	86,208	86,208	86,208	86,208
Urban	0	0	0	0
Nonurban	86,208	86,208	86,208	86,208

The length of the main stream through the segment is 31.5 miles, and the average slope of the main stream is 9.0 feet per mile. The average Q7-10 values for the segment is 0.3 cubic feet per second.

Point sources and their existing wastewater discharge characteristics, location, and treatment types are listed in Exhibit B-3.4t. Wasteload allocations for 1980 for the point sources are listed in Exhibit B-3.5t; construction grant priorities are given for eligible municipalities, and segment priorities are given for domestic and industrial sources.

Exhibit B-1.6t summarizes the principal treatment levels required to meet water quality standards; disposal needs; total cost needs for treatment, infiltration/inflow corrections, interceptors, collectors, and combined sewers; and compliance goals.

Segment SR-05

Segment SR-05 is located in the southeastern portion of the Salt River Basin and North Rolling Fork is the main stream flowing through the segment as illustrated in Exhibit B-3.1m. The segment has a 1975 population of 3,404 and one municipality is eligible for sewer construction grants. There is one point source in the segment. The maximum daily load is not given since the segment is an effluent limitation segment.

Basic planning data for the segment including population, housing units, employment, and land use are summarized in Exhibit B-13.2t.

Exhibit B-13.2t BASIC PLANNING DATA

Segment SR-05	1970	1975	1980	1995
Population				
(Total)	3,186	3,404	3,481	3,697
Urban	0	0	0	0
Rural	3,186	3,404	3,481	3,697
Farm	1,782	1,849	1,878	1,953
Nonfarm	1,404	1,555	1,603	1,744
Housing Units				
(Total)	961	1,055	1,149	1,208
Urban	0	0	0	0
Rural	961	1,055	1,149	1,208
Farm	522	566	624	643
Nonfarm	439	489	525	565
Employment				
(Total)	2,384	2,953	3,609	4,653
Land Use				
(Total)	113,408	113,408	113,408	113,408
Urban	0	0	0	0
Nonurban	113,408	113,408	113,408	113,408

The length of the main stream through the segment is 20.7 miles, and the average slope of the main stream is 12.0 feet per mile. The average Q7-10 values for the segment is 0.0 cubic feet per second.

Point sources and their existing wastewater discharge characteristics, location, and treatment types are listed in Exhibit B-3.4t. Wasteload allocations for 1980 for the point sources are listed in Exhibit B-3.5t; construction grant priorities are given for eligible municipalities, and segment priorities are given for domestic and industrial sources.

Exhibit B-1.6t summarizes the principal treatment levels required to meet water quality standards; disposal needs; total cost needs for treatment, infiltration/inflow corrections, interceptors, collectors, and combined sewers; and compliance goals.

Segment SB-01

Segment SB-01 is located in the southwestern portion of the Salt River Basin and Beech Fork is the main stream flowing through the segment as illustrated in Exhibit B-4.1m. The segment has a 1975 population of 10,281 and one municipality is eligible for sewer construction grants. There are five point sources in the segment. The maximum daily load for the segment is 149.48 TOD (pounds per day).

Basic planning data for the segment including population, housing units, employment, and land use are summarized in Exhibit B-14.2t.

Exhibit B-14.2t BASIC PLANNING DATA

Segment SB-01	1970	1975	1980	1995
Population				
(Total)	9,913	10,281	10,762	12,411
Urban	5,816	6,259	6,781	8,616
Rural	4,097	4,022	3,981	3,795
Farm	1,351	1,192	1,047	596
Nonfarm	2,746	2,830	2,934	3,199
Housing Units				
(Total)	2,972	3,004	3,032	3,557
Urban	1,833	1,855	1,877	2,469
Rural	1,139	1,149	1,155	1,088
Farm	331	337	342	171
Nonfarm	808	812	813	917
Employment				
(Total)	1,971	2,497	3,040	4,485
Land Use				
(Total)	60,224	60,224	60,224	60,224
Urban	1,885	2,026	2,194	2,788
Nonurban	58,339	58,198	58,030	57,436

The length of the main stream through the segment is 20.9 miles, and the average slope of the main stream is 1.5 feet per mile. The average Q7-10 values for the segment is 0.6 cubic feet per second.

Point sources and their existing wastewater discharge characteristics, location, and treatment types are listed in Exhibit B-4.4t. Wasteload allocations for 1980 for the point sources are listed in Exhibit B-4.5t; construction grant priorities are given for eligible municipalities, and segment priorities are given for domestic and industrial sources.

Exhibit B-1.6t summarizes the principal treatment levels required to meet water quality standards; disposal needs; total cost needs for treatment, infiltration/inflow corrections, interceptors, collectors, and combined sewers; and compliance goals.

Segment SB-02

Segment SB-02 is located in the southern portion of the Salt River Basin and Beech Fork is the main stream flowing through the segment as illustrated in Exhibit B-4.1m. The segment has a 1975 population of 7,004 and one municipality is eligible for sewer construction grants. There are three point sources in the segment. The maximum daily load for the segment is 60.88 TOD (pounds per day).

Basic planning data for the segment including population, housing units, employment, and land use are summarized in Exhibit B-15.2t.

Exhibit B-15.2t BASIC PLANNING DATA

Segment SB-02	1970	1975	1980	1995
Population				
(Total)	6,794	7,004	7,288	8,180
Urban	0	0	0	0
Rural	6,794	7,004	7,288	8,180
Farm	3,760	3,756	3,763	3,752
Nonfarm	3,034	3,248	3,525	4,428
Housing Units				
(Total)	1,986	2,083	2,186	2,440
Urban	0	0	0	0
Rural	1,986	2,083	2,186	2,440
Farm	1,012	1,088	1,166	1,139
Nonfarm	974	995	1,020	1,301
Employment				
(Total)	1,223	1,557	1,904	2,825
Land Use				
(Total)	152,240	152,240	152,240	152,240
Urban	0	0	0	0
Nonurban	152,240	152,240	152,240	152,240

The length of the main stream through the segment is 73.0 miles, and the average slope of the main stream is 6.0 feet per mile. The average Q7-10 values for the segment is 0.2 cubic feet per second.

Point sources and their existing wastewater discharge characteristics, location, and treatment types are listed in Exhibit B-4.4t. Wasteload allocations for 1980 for the point sources are listed in Exhibit B-4.5t; construction grant priorities are given for eligible municipalities, and segment priorities are given for domestic and industrial sources.

Exhibit B-1.6t summarizes the principal treatment levels required to meet water quality standards; disposal needs; total cost needs for treatment, infiltration/inflow corrections, interceptors, collectors, and combined sewers; and compliance goals.

Segment SB-03

Segment SB-03 is located in the southern portion of the Salt River Basin and Hardins Creek is the main stream flowing through the segment as illustrated in Exhibit B-4.1m. The segment has a 1975 population of 9,575 and two municipalities are eligible for sewer construction grants. There are three point sources in the segment. The maximum daily load for the segment is 167.13 TOD (pounds per day).

Basic planning data for the segment including population, housing units, employment, and land use are summarized in Exhibit B-16.2t.

Exhibit B-16.2t BASIC PLANNING DATA

Segment SB-03	1970	1975	1980	1995
Population				
(Total)	9,241	9,575	10,024	11,667
Urban	5,528	6,006	6,572	8,654
Rural	3,713	3,569	3,452	3,013
Farm	1,875	1,805	1,746	1,528
Nonfarm	1,838	1,764	1,706	1,485
Housing Units				
(Total)	2,762	2,793	2,823	3,281
Urban	1,746	1,793	1,841	2,424
Rural	1,016	1,000	982	857
Farm	483	492	498	436
Nonfarm	533	508	484	421
Employment				
(Total)	1,564	2,055	2,577	3,880
Land Use				
(Total)	40,448	40,448	40,448	40,448
Urban	1,789	1,944	2,127	2,801
Nonurban	38,659	38,504	38,321	37,647

The length of the main stream through the segment is 19.0 miles, and the average slope of the main stream is 20.5 feet per mile. The average Q7-10 values for the segment is 0.0 cubic feet per second.

Point sources and their existing wastewater discharge characteristics, location, and treatment types are listed in Exhibit B-4.4t. Wasteload allocations for 1980 for the point sources are listed in Exhibit B-4.5t; construction grant priorities are given for eligible municipalities, and segment priorities are given for domestic and industrial sources.

Exhibit B-1.6t summarizes the principal treatment levels required to meet water quality standards; disposal needs; total cost needs for treatment, infiltration/inflow corrections, interceptors, collectors, and combined sewers; and compliance goals.

Segment SB-04

Segment SB-04 is located in the southern portion of the Salt River Basin and Cartwright Creek is the main stream flowing through the segment as illustrated in Exhibit B-4.1m. The segment has a 1975 population of 5,391 and one municipality is eligible for sewer construction grants. There are five point sources in the segment. The maximum daily load for the segment is 253.37 TOD (pounds per day).

Basic planning data for the segment including population, housing units, employment, and land use are summarized in Exhibit B-17.2t.

Exhibit B-17.2t BASIC PLANNING DATA

Segment SB-04	1970	1975	1980	1995
Population				
(Total)	5,235	5,391	5,587	6,147
Urban	2,961	3,151	3,375	4,064
Rural	2,274	2,440	2,212	2,083
Farm	1,496	1,452	1,403	1,253
Nonfarm	778	788	809	830
Housing Units				
(Total)	1,633	1,679	1,719	1,889
Urban	955	1,002	1,048	1,262
Rural	678	677	671	627
Farm	412	421	429	380
Nonfarm	266	256	242	247
Employment				
(Total)	889	1,134	1,388	2,058
Land Use				
(Total)	55,168	55,168	55,168	55,168
Urban	958	1,020	1,092	1,315
Nonurban	54,210	54,148	54,076	53,853

The length of the main stream through the segment is 22.0 miles, and the average slope of the main stream is 19.5 feet per mile. The average Q7-10 values for the segment is 0.0 cubic feet per second.

Point sources and their existing wastewater discharge characteristics, location, and treatment types are listed in Exhibit B-4.4t. Wasteload allocations for 1980 for the point sources are listed in Exhibit B-4.5t; construction grant priorities are given for eligible municipalities, and segment priorities are given for domestic and industrial sources.

Exhibit B-1.6t summarizes the principal treatment levels required to meet water quality standards; disposal needs; total cost needs for treatment, infiltration/inflow corrections, interceptors, collectors, and combined sewers; and compliance goals.

Segment SB-05

Segment SB-05 is located on the eastern portion of the Salt River Basin and Chaplin River is the main stream flowing through the segment as illustrated in Exhibit B-4.1m. The segment has a 1975 population of 7,408 and one municipality is eligible for sewer construction grants. There are six point sources in the segment. The maximum daily load for the segment is 64.38 TOD (pounds per day).

Basic planning data for the segment including population, housing units, employment, and land use are summarized in Exhibit B-18.2t.

Exhibit B-18.2t BASIC PLANNING DATA

Segment SB-05	1970	1975	1980	1995
Population				
(Total)	6,966	7,408	7,732	8,874
Urban	0	0	0	0
Rural	6,966	7,408	7,732	8,874
Farm	3,758	3,716	3,615	3,138
Nonfarm	3,208	3,692	4,117	5,736
Housing Units				
(Total)	2,368	2,496	2,635	3,026
Urban	0	0	0	0
Rural	2,368	2,496	2,635	3,026
Farm	1,231	1,156	1,219	1,045
Nonfarm	1,137	1,340	1,416	1,981
Employment				
(Total)	2,427	3,030	3,698	4,880
Land Use				
(Total)	155,520	155,520	155,520	155,520
Urban	0	0	0	0
Nonurban	155,520	155,520	155,520	155,520

The length of the main stream through the segment is 82.8 miles, and the average slope of the main stream is 6.5 feet per mile. The average Q7-10 values for the segment is 0.0 cubic feet per second.

Point sources and their existing wastewater discharge characteristics, location, and treatment types are listed in Exhibit B-4.4t. Wasteload allocations for 1980 for the point sources are listed in Exhibit B-4.5t; construction grant priorities are given for eligible municipalities, and segment priorities are given for domestic and industrial sources.

Exhibit B-1.6t summarizes the principal treatment levels required to meet water quality standards; disposal needs; total cost needs for treatment, infiltration/inflow corrections, interceptors, collectors, and combined sewers; and compliance goals.

Segment SB-06

Segment SB-06 is located in the southeastern portion of the Salt River Basin and Chaplin River is the main stream flowing through the segment as illustrated in Exhibit B-4.1m. The segment has a 1975 population of 1,890 and no municipalities are eligible for sewer construction grants. There are no point sources in the segment. The maximum daily load is not given since the segment is an effluent limitation segment.

Basic planning data for the segment including population, housing units, employment, and land use are summarized in Exhibit B-19.25.

Exhibit B-19.2t BASIC PLANNING DATA

Segment SB-06	1970	1975	1980	1995
Population				
(Total)	1,615	1,890	1,926	1,972
Urban	0	0	0	0
Rural	1,615	1,890	1,926	1,972
Farm	477	558	569	582
Nonfarm	1,138	1,332	1,357	1,390
Housing Units				
(Total)	547	625	702	720
Urban	0	0	0	0
Rural	547	625	702	720
Farm	162	174	207	212
Nonfarm	385	451	495	508
Employment				
(Total)	2,411	2,964	3,618	4,666
Land Use				
(Total)	18,688	18,688	18,688	18,688
Urban	0	0	0	0
Nonurban	18,688	18,688	18,688	18,688

The length of the main stream through the segment is 3.4 miles, and the average slope of the main stream is 10.0 feet per mile. The average Q7-10 values for the segment is 0.0 cubic feet per second.

Point sources and their existing wastewater discharge characteristics, location, and treatment types are listed in Exhibit B-4.4t. Wasteload allocations for 1980 for the point sources are listed in Exhibit B-4.5t; construction grant priorities are given for eligible municipalities, and segment priorities are given for domestic and industrial sources.

Exhibit B-1.6t summarizes the principal treatment levels required to meet water quality standards; disposal needs; total cost needs for treatment, infiltration/inflow corrections, interceptors, collectors, and combined sewers; and compliance goals.

Segment SS-01

Segment SS-01 is located in the western portion of the Salt River Basin and the Salt River is the main stream flowing through the segment as illustrated in Exhibit B-5.1m. The segment has a 1975 population of 31 and no municipalities are eligible for sewer construction grants. There are no point sources in the segment. The maximum daily load for the segment is 0.33 TOD (pounds per day).

Basic planning data for the segment including population, housing units, employment, and land use are summarized in Exhibit B-20.2t.

Exhibit B-20.2t BASIC PLANNING DATA

Segment SS-01	1970	1975	1980	1995
Population				
(Total)	25	31	36	56
Urban	0	0	0	0
Rural	25	31	36	56
Farm	12	13	13	13
Nonfarm	13	18	23	43
Housing Units				
(Total)	8	10	11	18
Urban	0	0	0	0
Rural	8	10	11	18
Farm	3	4	4	4
Nonfarm	5	6	7	14
Employment				
(Total)	0	0	0	0
Land Use				
(Total)	20,160	20,160	20,160	20,160
Urban	0	0	0	0
Nonurban	20,160	20,160	20,160	20,160

The length of the main stream through the segment is 11.4 miles, and the average slope of the main stream is 1.0 feet per mile. The average Q7-10 values for the segment is 2.9 cubic feet per second.

Point sources and their existing wastewater discharge characteristics, location, and treatment types are listed in Exhibit B-5.4t. Wasteload allocations for 1980 for the point sources are listed in Exhibit B-5.5t; construction grant priorities are given for eligible municipalities, and segment priorities are given for domestic and industrial sources.

Exhibit B-1.6t summarizes the principal treatment levels required to meet water quality standards; disposal needs; total cost needs for treatment, infiltration/inflow corrections, interceptors, collectors, and combined sewers; and compliance goals.

Segment SS-02

Segment SS-02 is located in the western portion of the Salt River Basin and the Salt River is the main stream flowing through the segment as illustrated in Exhibit B-5.1m. The segment has a 1975 population of 8,581 and one municipality is eligible for sewer construction grants. There is one point source in the segment. The maximum daily load for the segment is 220,34 TOD (pounds per day).

Basic planning data for the segment including population, housing units, employment, and land use are summarized in Exhibit B-21.2t.

Exhibit B-21.2t BASIC PLANNING DATA

Segment SS-02	1970	1975	1980	1995
Population				
(Total)	5,003	8,581	13,210	21,714
Urban	2,769	5,179	11,192	21,714
Rural	2,234	3,402	2,018	0
Farm	320	488	289	0
Nonfarm	1,914	2,914	1,729	0
Housing Units				
(Total)	1,553	2,701	3,763	6,187
Urban	898	1,729	3,188	6,187
Rural	655	972	575	0
Farm	94	142	82	0
Nonfarm	561	830	493	0
Employment				
(Total)	498	1,705	2,912	6,713
Land Use				
(Total)	23,360	23,360	23,360	23,360
Urban	896	1,676	3,623	11,494
Nonurban	22,464	21,684	19,737	11,866

The length of the main stream through the segment is 14.1 miles, and the average slope of the main stream is 1.0 feet per mile. The average Q7-10 values for the segment is 0.8 cubic feet per second.

Point sources and their existing wastewater discharge characteristics, location, and treatment types are listed in Exhibit B-5.4t. Wasteload allocations for 1980 for the point sources are listed in Exhibit B-5.5t; construction grant priorities are given for eligible municipalities, and segment priorities are given for domestic and industrial sources.

Exhibit B-1.6t summarizes the principal treatment levels required to meet water quality standards; disposal needs; total cost needs for treatment, infiltration/inflow corrections, interceptors, collectors, and combined sewers; and compliance goals.

Segment SS-03

Segment SS-03 is located in the midwestern portion of the Salt River Basin and Long Lick is the main stream flowing through the segment as illustrated in Exhibit B-5.1m. The segment has a 1975 population of 1,815 and no municipalities are eligible for sewer construction grants. There is one point source in the segment. The maximum daily load for the segment is 56.71 TOD (pounds per day).

Basic planning data for the segment including population, housing units, employment, and land use are summarized in Exhibit B-22.2t.

Exhibit B-22.2t BASIC PLANNING DATA

Segment SS-03	1970	1975	1980	1995
Population				
(Total)	1,496	1,815	2,244	2,394
Urban	0	0	0	2,176
Rural	1,496	1,815	2,244	218
Farm	214	260	322	31
Nonfarm	1,282	1,555	1,922	187
Housing Units				
(Total)	438	519	639	681
Urban	0	0	0	619
Rural	438	519	639	62
Farm	63	76	92	9
Nonfarm	375	443	547	53
Employment				
(Total)	148	506	865	1,993
Land Use				
(Total)	19,328	19,328	19,328	19,328
Urban	0	0	0	0
Nonurban	19,328	19,328	19,328	19,328

The length of the main stream through the segment is 10.0 miles, and the average slope of the main stream is 21.0 feet per mile. The average Q7-10 values for the segment is 0.0 cubic feet per second.

Point sources and their existing wastewater discharge characteristics, location, and treatment types are listed in Exhibit B-5.4t. Wasteload allocations for 1980 for the point sources are listed in Exhibit B-5.5t; construction grant priorities are given for eligible municipalities, and segment priorities are given for domestic and industrial sources.

Exhibit B-1.6t summarizes the principal treatment levels required to meet water quality standards; disposal needs; total cost needs for treatment, infiltration/inflow corrections, interceptors, collectors, and combined sewers; and compliance goals.

Segment SS-04

Segment SS-04 is located in the midwestern portion of the Salt River Basin and the Salt River is the main stream flowing through the segment as illustrated in Exhibit B-5.1m. The segment has a 1975 population of 3,182 and no municipalities are eligible for sewer construction grants. There are no point sources in the segment. The maximum daily load for the segment is 32.52 TOD (pounds per day).

Basic planning data for the segment including population, housing units, employment, and land use are summarized in Exhibit B-23.2t.

Exhibit B-23.2t BASIC PLANNING DATA

Segment SS-04	1970	1975	1980	1995
Population				
(Total)	2,632	3,182	3,910	7,468
Urban	0	0	0	5,212
Rural	2,632	3,182	3,910	2,256
Farm	462	536	635	370
Nonfarm	2,170	2,646	3,275	1,886
Housing Units				
(Total)	780	920	1,123	2,144
Urban	0	0	0	1,485
Rural	780	920	1,123	659
Farm	134	157	184	109
Nonfarm	646	763	939	550
Employment				
(Total)	257	875	1,493	3,386
Land Use				
(Total)	39,616	39,616	39,616	39,616
Urban	0	0	0	0
Nonurban	39,616	39,616	39,616	39,616

The length of the main stream through the segment is 18.6 miles, and the average slope of the main stream is 10.0 feet per mile. The average Q7-10 values for the segment is 0.5 cubic feet per second.

Point sources and their existing wastewater discharge characteristics, location, and treatment types are listed in Exhibit B-5.4t. Wasteload allocations for 1980 for the point sources are listed in Exhibit B-5.5t; construction grant priorities are given for eligible municipalities, and segment priorities are given for domestic and industrial sources.

Exhibit B-1.6t summarizes the principal treatment levels required to meet water quality standards; disposal needs; total cost needs for treatment, infiltration/inflow corrections, interceptors, collectors, and combined sewers; and compliance goals.

Segment SS-05

Segment SS-05 is located in the midwestern portion of the Salt River Basin and Cox Creek is the main stream flowing through the segment as illustrated in Exhibit B-5.1m. The segment has a 1975 population of 4,492 and one municipality is eligible for sewer construction grants. There are three point sources in the segment. The maximum daily load for the segment is 40.03 TOD (pounds per day).

Basic planning data for the segment including population, housing units, employment, and land use are summarized in Exhibit B-24.2t.

Exhibit B-24.2t BASIC PLANNING DATA

Segment SS-05	1970	1975	1980	1995
Population				
(Total)	4,272	4,492	4,798	5,770
Urban	0	0	0	0
Rural	4,272	4,492	4,798	5,770
Farm	1,409	1,331	1,259	951
Nonfarm	2,863	3,161	3,539	4,819
Housing Units				
(Total)	1,208	1,298	1,401	1,674
Urban	0	0	0	0
Rural	1,208	1,298	1,401	1,674
Farm	353	379	408	278
Nonfarm	855	919	993	1,376
Employment				
(Total)	780	1,098	1,421	2,271
Land Use				
(Total)	60,672	60,672	60,672	60,672
Urban	0	0	0	0
Nonurban	60,672	60,672	60,672	60,672

The length of the main stream through the segment is 16.0 miles, and the average slope of the main stream is 21.0 feet per mile. The average Q7-10 values for the segment is 0.0 cubic feet per second.

Point sources and their existing wastewater discharge characteristics, location, and treatment types are listed in Exhibit B-5.4t. Wasteload allocations for 1980 for the point sources are listed in Exhibit B-5.5t; construction grant priorities are given for eligible municipalities, and segment priorities are given for domestic and industrial sources.

Exhibit B-1.6t summarizes the principal treatment levels required to meet water quality standards; disposal needs; total cost needs for treatment, infiltration/inflow corrections, interceptors, collectors, and combined sewers; and compliance goals.

Segment SS-06

Segment SS-06 is located in the mideastern portion of the Salt River Basin and Simpson Creek is the main stream flowing through the segment as illustrated in Exhibit B-5.1m. The segment has a 1975 population of 2,969 and one municipality is eligible for sewer construction grants. There are two point sources in the segment. The maximum daily load for the segment is 69.22 TOD (pounds per day).

Basic planning data for the segment including population, housing units, employment, and land use are summarized in Exhibit B-25.2t.

Exhibit B-25.2t BASIC PLANNING DATA

Segment SS-06	1970	1975	1980	1995
Population				
(Total)	2,813	2,969	3,161	3,911
Urban	0	0	0	0
Rural	2,813	2,969	3,161	3,911
Farm	998	948	896	687
Nonfarm	1,815	2,021	2,265	3,224
Housing Units				
(Total)	804	870	933	1,149
Urban	0	0	0	0
Rural	804	870	933	1,149
Farm	257	272	291	204
Nonfarm	552	598	642	945
Employment				
(Total)	505	715	931	1,442
Land Use				
(Total)	34,688	34,688	34,688	34,688
Urban	0	0	0	0
Nonurban	34,688	34,688	34,688	34,688

The length of the main stream through the segment is 16.5 miles, and the average slope of the main stream is 20.0 feet per mile. The average Q7-10 values for the segment is 0.0 cubic feet per second.

Point sources and their existing wastewater discharge characteristics, location and treatment types are listed in Exhibit B-5.4t. Wasteload allocations for 1980 for the point sources are listed in Exhibit B-5.5t; construction grant priorities are given for eligible municipalities, and segment priorities are given for domestic and industrial sources.

Exhibit B-1.6t summarizes the principal treatment levels required to meet water quality standards; disposal needs; total cost needs for treatment, infiltration/inflow corrections, interceptors, collectors, and combined sewers; and compliance goals.

Segment SS-07

Segment SS-07 is located in the midwestern portion of the Salt River Basin and Elk Creek is the main stream flowing through the segment as illustrated in Exhibit B-5.1m. The segment has a 1975 population of 824 and one municipality is eligible for sewer construction grants. There are two point sources in the segment. The maximum daily load for the segment is 16.68 TOD (pounds per day).

Basic planning data for the segment including population, housing units, employment, and land use are summarized in Exhibit B-26.2t.

Exhibit B-26.2t BASIC PLANNING DATA

Segment SS-07	1970	1975	1980	1995
Population				
(Total)	732	824	945	1,499
Urban	0	0	0	0
Rural	732	824	945	1,499
Farm	351	350	350	350
Nonfarm	381	474	595	1,149
Housing Units				
(Total)	239	268	299	474
Urban	0	0	0	0
Rural	239	268	299	474
Farm	98	104	111	111
Nonfarm	141	164	188	363
Employment				
(Total)	61	94	327	591
Land Use				
(Total)	19,584	19,584	19,584	19,584
Urban	0	0	0	0
Nonurban	19,584	19,584	19,584	19,584

The length of the main stream through the segment is 12.0 miles, and the average slope of the main stream is 17.0 feet per mile. The average Q7-10 values for the segment is 0.0 cubic feet per second.

Point sources and their existing wastewater discharge characteristics, location, and treatment types are listed in Exhibit B-5.4t. Wasteload allocations for 1980 for the point sources are listed in Exhibit B-5.5t; construction grant priorities are given for eligible municipalities, and segment priorities are given for domestic and industrial sources.

Exhibit B-1.6t summarizes the principal treatment levels required to meet water quality standards; disposal needs; total cost needs for treatment, infiltration/inflow corrections, interceptors, collectors, and combined sewers; and compliance goals.

Segment SS-08

Segment SS-08 is located in the midwestern portion of Salt River Basin and Plum Creek is the main stream flowing through the segment as illustrated in Exhibit B-5.1m. The segment has a 1975 population of 955 and no municipalities are eligible for sewer construction grants. There are three point sources in the segment. The maximum daily load for the segment is 8.84 TOD (pounds per day).

Basic planning data for the segment including population, housing units, employment, and land use are summarized in Exhibit B-27.2t.

Exhibit B-27.2t BASIC PLANNING DATA

Segment SS-08	1970	1975	1980	1995
Population				
(Total)	872	955	1,063	1,545
Urban	0	0	0	0
Rural	872	955	1,063	1,545
Farm	410	415	422	445
Nonfarm	462	540	641	1,100
Housing Units				
(Total)	284	312	341	494
Urban	0	0	0	0
Rural	284	312	341	494
Farm	116	126	136	143
Nonfarm	168	186	205	351
Employment				
(Total)	131	270	397	613
Land Use				
(Total)	28,608	28,608	28,608	28,608
Urban	0	0	0	0
Nonurban	28,608	28,608	28,608	28,608

The length of the main stream through the segment is 15.5 miles, and the average slope of the main stream is 23.0 feet per mile. The average Q7-10 values for the segment is 0.0 cubic feet per second.

Point sources and their existing wastewater discharge characteristics, location, and treatment types are listed in Exhibit B-5.4t. Wasteload allocations for 1980 for the point sources are listed in Exhibit B-5.5t; construction grant priorities are given for eligible municipalities, and segment priorities are given for domestic and industrial sources.

Exhibit B-1.6t summarizes the principal treatment levels required to meet water quality standards; disposal needs; total cost needs for treatment, infiltration/inflow corrections, interceptors, collectors, and combined sewers; and compliance goals.

Segment SS-09

Segment SS-09 is located in the northern portions of the Salt River Basin and Ballskin Creek is the main stream flowing through the segment as illustrated in Exhibit B-6.1m. The segment has a 1975 population of 4,640 and two municipalities are eligible for sewer construction grants. There are five point sources in the segment. The maximum daily load for the segment is 81.73 TOD (pounds per day).

Basic planning data for the segment including population, housing units, employment, and land use are summarized in Exhibit B-28.2t.

Exhibit B-28.2t BASIC PLANNING DATA

Segment SS-09	1970	1975	1980	1995
Population				
(Total)	4,432	4,640	4,897	5,958
Urban	0	0	0	0
Rural	4,432	4,640	4,897	5,958
Farm	1,553	1,619	1,695	2,000
Nonfarm	2,879	3,021	3,202	3,958
Housing Units				
(Total)	1,540	1,605	1,676	2,040
Urban	0	0	0	0
Rural	1,540	1,605	1,676	2,040
Farm	469	521	574	679
Nonfarm	1,071	1,084	1,102	1,361
Employment				
(Total)	1,436	2,396	3,355	4,042
Land Use				
(Total)	49,664	49,664	49,664	49,664
Urban	0	0	0	0
Nonurban	49,664	49,664	49,664	49,664

The length of the main stream through the segment is 23.5 miles, and the average slope of the main stream is 5.6 feet per mile. The average Q7-10 values for the segment is 0.0 cubic feet per second.

Point sources and their existing wastewater discharge characteristics, location, and treatment types are listed in Exhibit B-6.4t. Wasteload allocations for 1980 for the point sources are listed in Exhibit B-6.5t; construction grant priorities are given for eligible municipalities, and segment priorities are given for domestic and industrial sources.

Exhibit B-1.6t summarizes the principal treatment levels required to meet water quality standards; disposal needs; total cost needs for treatment, infiltration/inflow corrections, collectors, and combined sewers; and compliance goals.

Segment SS-10

Segment SS-10 is located in the northeastern portion of the Salt River Basin and Clear Creek is the main stream flowing through the segment as illustrated in Exhibit B-6.1m. The segment has a 1975 population of 450 and no municipalities are eligible for sewer construction grants. There are no point sources in the segment. The maximum daily load is not given since the segment is an effluent limitation segment.

Basic planning data for the segment including population, housing units, employment, and land use are summarized in Exhibit B-29.2t.

Exhibit B-29.2t BASIC PLANNING DATA

Segment SS-10	1970	1975	1980	1995
Population				
(Total)	432	450	476	572
Urban	0	0	0	0
Rural	432	450	476	572
Farm	197	203	212	243
Nonfarm	235	247	264	329
Housing Units				
(Total)	140	148	157	188
Urban	0	0	0	0
Rural	140	148	157	188
Farm	58	63	70	80
Nonfarm	82	82	87	108
Employment				
(Total)	262	431	600	721
Land Use				
(Total)	7,552	7,552	7,552	7,552
Urban	0	0	0	0
Nonurban	7,552	7,552	7,552	7,552

The length of the main stream through the segment is 5.0 miles, and the average slope of the main stream is 8.0 feet per mile. The average Q7-10 values for the segment is 0.0 cubic feet per second.

Point sources and their existing wastewater discharge characteristics, location, and treatment types are listed in Exhibit B-6.4t. Wasteload allocations for 1980 for the point sources are listed in Exhibit B-6.5t; construction grant priorities are given for eligible municipalities, and segment priorities are given for domestic and industrial sources.

Exhibit B-1.6t summarizes the principal treatment levels required to meet water quality standards; disposal needs; total cost needs for treatment, infiltration/inflow corrections, interceptors, collectors, and combined sewers; and compliance goals.

Segment SS-11

Segment SS-11 is located in the northern portion of the Salt River Basin and Clear Creek is the main stream flowing through the segment as illustrated in Exhibit B-6.1m. The segment has a 1975 population of 8,988 and one municipality is eligible for sewer construction grants. There are 16 point sources in the segment. The maximum daily load for the segment is 158.13 TOD (pounds per day).

Basic planning data for the segment including population, housing units, employment, and land use are summarized in Exhibit B-30.2t.

Exhibit B-30.2t BASIC PLANNING DATA

Segment SS-11	1970	1975	1980	1995
Population				
(Total)	8,584	8,988	9,475	11,384
Urban	4,182	4,874	5,662	8,700
Rural	4,402	4,114	3,813	2,684
Farm	1,926	1,779	1,621	1,053
Nonfarm	2,476	2,335	2,192	1,631
Housing Units				
(Total)	3,096	3,119	3,127	3,758
Urban	1,649	1,756	1,863	2,862
Rural	1,447	1,363	1,264	896
Farm	569	557	536	350
Nonfarm	878	806	728	546
Employment				
(Total)	2,108	2,974	3,840	4,390
Land Use				
(Total)	33,856	33,856	33,856	33,856
Urban	1,353	1,577	1,832	2,816
Nonurban	32,503	32,279	32,024	31,040

The length of the main stream through the segment is 21.0 miles, and the average slope of the main stream is 6.0 feet per mile. The average Q7-10 values for the segment is 0.0 cubic feet per second.

Point sources and their existing wastewater discharge characteristics, location, and treatment types are listed in Exhibit B-6.4t. Wasteload allocations for 1980 for the point sources are listed in Exhibit B-6.5t; construction grant priorities are given for eligible municipalities, and segment priorities are given for domestic and industrial sources.

Exhibit B-1.6t summarizes the principal treatment levels required to meet water quality standards; disposal needs; total cost needs for treatment, infiltration/inflow corrections, interceptors, collectors, and combined sewers; and compliance goals.

Segment SS-12

Segment SS-12 is located in the mideastern portion of Salt River Basin and Guist Creek is the main stream flowing through the segment as illustrated in Exhibit B-6.1m. The segment has a 1975 population of 5,485 and no municipalities are eligible for sewer construction grants. There is one point source in the segment. The maximum daily load for the segment is 49.54 TOD (pounds per day).

Basic planning data for the segment including population, housing units, employment, and land use are summarized in Exhibit B-31.2t.

Exhibit B-31.2t BASIC PLANNING DATA

Segment SS-12	1970	1975	1980	1995
Population				
(Total)	5,111	5,485	5,950	7,955
Urban	0	0	0	0
Rural	5,111	5,485	5,950	7,955
Farm	2,365	2,428	2,497	2,742
Nonfarm	2,746	3,057	3,453	5,213
Housing Units				
(Total)	1,663	1,795	1,931	2,575
Urban	0	0	0	0
Rural	1,663	1,795	1,931	2,575
Farm	685	746	812	892
Nonfarm	978	1,049	1,119	1,683
Employment				
(Total)	1,033	1,699	2,364	3,185
Land Use				
(Total)	76,032	76,032	76,032	76,032
Urban	0	0	0	0
Nonurban	76,032	76,032	76,032	76,032

The length of the main stream through the segment is 25.5 miles, and the average slope of the main stream is 9.5 feet per mile. The average Q7-10 value for the segment is 0.0 cubic feet per second.

Point sources and their existing wastewater discharge characteristics, location, and treatment types are listed in Exhibit B-6.4t. Wasteload allocations for 1980 for the point sources are listed in Exhibit B-6.5t; construction grant priorities are given for eligible municipalities, and segment priorities are given for domestic and industrial sources.

Exhibit B-1.6t summarizes the principal treatment levels required to meet water quality standards; disposal needs; total cost needs for treatment, infiltration/inflow corrections, interceptors, collectors, and combined sewers; and compliance goals.

Segment SS-13

Segment SS-13 is located in the midwestern portion of the Salt River Basin and the Salt River is the main stream flowing through the segment as illustrated in Exhibit B-7.1m. The segment has a 1975 population of 3,406 and no municipalities are eligible for sewer construction grants. There are no point sources in the segment. The maximum daily load for the segment is 31.19 TOD (pounds per day).

Basic planning data for the segment including population, housing units, employment, and land use are summarized in Exhibit B-32.2t.

Exhibit B-32.2t BASIC PLANNING DATA

Segment SS-13	1970	1975	1980	1995
Population				
(Total)	3,134	3,406	3,741	5,218
Urban	0	0	0	0
Rural	3,134	3,406	3,741	5,218
Farm	1,388	1,394	1,399	1,418
Nonfarm	1,746	2,012	2,342	3,800
Housing Units				
(Total)	993	1,087	1,182	1,646
Urban	0	0	0	0
Rural	993	1,087	1,182	1,646
Farm	389	420	450	451
Nonfarm	604	667	732	1,195
Employment				
(Total)	508	423	1,341	2,045
Land Use				
(Total)	81,334	81,334	81,344	81,344
Urban	0	0	0	0
Nonurban	81,344	81,344	81,344	81,344

The length of the main stream through the segment is 25.7 miles, and the average slope of the main stream is 2.0 feet per mile. The average Q7-10 values for the segment is 0.2 cubic feet per second.

Point sources and their existing wastewater discharge characteristics, location, and treatment types are listed in Exhibit B-7.4t. Wasteload allocations for 1980 for the point sources are listed in Exhibit B-7.5t; construction grant priorities are given for eligible municipalities, and segment priorities are given for domestic and industrial sources.

Exhibit B-1.6t summarizes the principal treatment levels required to meet water quality standards; disposal needs; total cost needs for treatment, infiltration/inflow corrections, interceptors, collectors, and combined sewers; and compliance goals.

Segment SS-14

Segment SS-14 is located in the eastern portion of the Salt River Basin and the Salt River is the main stream flowing through the segment as illustrated in Exhibit B-7.1m. The segment has a 1975 population of 2,007 and no municipalities are eligible for sewer construction grants. There are four point sources in the segment. The maximum daily load for the segment is 17.51 TOD (pounds per day).

Basic planning data for the segment including population, housing units, employment, and land use are summarized in Exhibit B-33.2t.

Exhibit B-33.2t BASIC PLANNING DATA

Segment SS-14	1970	1975	1980	1995
Population				
(Total)	1,826	2,007	2,096	2,481
Urban	0	0	0	0
Rural	1,826	2,007	2,096	2,481
Farm	1,025	1,073	980	746
Nonfarm	801	934	1,116	1,735
Housing Units				
(Total)	602	654	736	872
Urban	0	0	0	0
Rural	602	654	736	872
Farm	338	316	346	264
Nonfarm	264	338	390	608
Employment				
(Total)	401	547	664	853
Land Use				
(Total)	62,784	62,784	62,784	62,784
Urban	0	0	0	0
Nonurban	62,784	62,784	62,784	62,784

The length of the main stream through the segment is 18.3 miles, and the average slope of the main stream is 12.0 feet per mile. The average Q7-10 values for the segment is 0.0 cubic feet per second.

Point sources and their existing wastewater discharge characteristics, locations, and treatment types are listed in Exhibit B-7.4t. Wasteload allocations for 1980 for the point sources are listed in Exhibit B-7.5t; construction grant priorities are given for eligible municipalities, and segment priorities are given for domestic and industrial sources.

Exhibit B-1.6t summarizes the principal treatment levels required to meet water quality standards; disposal needs; total cost needs for treatment, infiltration/inflow corrections, interceptors, collectors, and combined sewers; and compliance goals.

Segment SS-15

Segment SS-15 is located in the eastern portion of Salt River Basin and Hammond Creek is the main stream flowing through the segment as illustrated in Exhibit B-7.1m. The segment has a 1975 population of 5,319 and no municipalities are eligible for sewer construction grants. There are four point sources in the segment. The maximum daily load for the segment is 92.74 TOD (pounds per day).

Basic planning data for the segment including population, housing units, employment, and land use are summarized in Exhibit B-34.2t.

Exhibit B-34.2t BASIC PLANNING DATA

Segment SS-15	1970	1975	1980	1995
Population				
(Total)	4,874	5,319	5,558	6,592
Urban	3,579	4,031	4,540	6,425
Rural	1,295	1,288	1,018	167
Farm	748	711	490	51
Nonfarm	547	577	528	116
Housing Units				
(Total)	1,756	1,895	1,977	2,346
Urban	1,326	1,470	1,615	2,287
Rural	430	425	362	59
Farm	248	210	174	18
Nonfarm	182	215	188	41
Employment				
(Total)	1,081	1,471	1,782	2,284
Land Use				
(Total)	19,968	19,968	19,968	19,968
Urban	1,158	1,305	1,469	2,079
Nonurban	18,810	18,663	18,499	17,889

The length of the main stream through the segment is 12.0 miles, and the average slope of the main stream is 15.5 feet per mile. The average Q7-10 values for the segment is 0.0 cubic feet per second.

Point sources and their existing wastewater discharge characteristics, location, and treatment types are listed in Exhibit B-7.4t. Wasteload allocations for 1980 for the point sources are listed in Exhibit B-7.5t; construction grant priorities are given for eligible municipalities, and segment priorities are given for domestic and industrial sources.

Exhibit B-1.6t summarizes the principal treatment levels required to meet water quality standards; disposal needs; total cost needs for treatment, infiltration/inflow corrections, interceptors, and combined sewers; and compliance goals.

Segment SS-16

Segment SS-16 is located in the eastern portion of the Salt River and the Salt River is the main stream flowing through the segment as illustrated in Exhibit B-7.1m. The segment has a 1975 population of 698 and no municipalities are eligible for sewer construction grants. There are not point sources in the segment. The maximum daily load for the segment is 5.67 TOD (pounds per day).

Basic planning data for the segment including population, housing units, employment, and land use are summarized in Exhibit B-35.2t.

Exhibit B-35.2t BASIC PLANNING DATA

Segment SS-16	1975	1975	1980	1995
Population				
(Total)	665	698	738	902
Urban	0	0	0	0
Rural	665	698	738	902
Farm	365	344	321	223
Nonfarm	300	354	417	677
Housing Units				
(Total)	243	251	260	318
Urban	0	0	0	0
Rural	243	251	260	318
Farm	132	112	113	78
Nonfarm	111	139	147	240
Employment				
(Total)	155	197	239	305
Land Use				
(Total)	14,720	14,720	14,720	14,720
Urban	0	0	0	0
Nonurban	14,720	14,720	14,720	14,720

The length of the main stream through the segment is 4.0 miles, and the average slope of the main stream is 1.5 feet per mile. The average Q7-10 values for the segment is 0.0 cubic feet per second.

Point sources and their existing wastewater discharge characteristics, location, and treatment types are listed in Exhibit B-7.4t. Wasteload allocations for 1980 for the point sources are listed in Exhibit B-7.5t; construction grant priorities are given for eligible municipalities, and segment priorities are given for domestic and industrial sources.

Exhibit B-1.6t summarizes the principal treatment levels required to meet water quality standards; disposal needs; total cost needs for treatment, infiltration/inflow corrections, interceptors, collectors, and combined sewers; and compliance goals.

Segment SS-17

Segment SS-17 is located in the eastern portion of Salt River Basin and the Salt River is the main stream flowing through the segment as illustrated in Exhibit B-7.1m. The segment has a 1975 population of 10,090 and one municipality is eligible for sewer construction grants. There are seven point sources in the segment. The maximum daily load for the segment is 179.14 TOD (pounds per day).

Basic planning data for the segment including population, housing units, employment, and land use are summarized in Exhibit B-36.2t.

Exhibit B-36.2t BASIC PLANNING DATA

Segment SS-17	1970	1975	1980	1995
Population				
(Total)	9,780	10,090	10,735	13,285
Urban	6,741	4,722	8,216	11,314
Rural	3,039	2,668	2,519	1,971
Farm	1,631	1,241	1,042	434
Nonfarm	1,408	1,427	1,477	1,537
Housing Units				
(Total)	3,746	3,725	3,755	4,647
Urban	2,593	2,733	2,873	3,956
Rural	1,153	992	882	691
Farm	619	421	364	152
Nonfarm	534	571	518	539
Employment				
(Total)	2,365	2,916	3,543	4,487
Land Use				
(Total)	52,032	52,032	52,032	52,032
Urban	2,182	2,402	2,659	3,665
Nonurban	49,850	49,630	49,373	48,367

The length of main stream through the segment is 18.7 miles, and the average slope of the main stream is 3.5 feet per mile. The average Q7-10 values for the segment is 0.0 cubic feet per second.

Point sources and their existing wastewater discharge characteristics, location, and treatment types are listed in Exhibit B-7.4t. Wasteload allocations for 1980 for the point sources are listed in Exhibit B-7.5t; construction grant priorities are given for eligible municipalities, and segment priorities are given for domestic and industrial sources.

Exhibit B-1.6t summarizes the principal treatment levels required to meet water quality standards; disposal needs; total cost needs for treatment, infiltration/inflow corrections, interceptors, collectors, and combined sewers; and compliance goals.

Segment SS-18

Segment SS-18 is located in the southeastern portion of the Salt River Basin and the Salt River is the main stream flowing through the segment as illustrated in Exhibit B-7.1m. The segment has a 1975 population of 437 and no municipalities are eligible for sewer construction grants. There are no point sources in the segment. The maximum daily load is not given since the segment is an effluent limitation segment.

Basic planning data for the segment including population, housing units, employment, and land use are summarized in Exhibit B-37.2t.

Exhibit B-37.2t BASIC PLANNING DATA

Segment SS-18	1970	1975	1980	1995
Population				
(Total)	374	437	446	457
Urban	0	0	0	0
Rural	374	437	446	457
Farm	111	129	131	135
Nonfarm	263	308	315	322
Housing Units				
(Total)	127	144	163	167
Urban	0	0	0	0
Rural	127	144	163	167
Farm	37	40	48	50
Nonfarm	90	104	115	117
Employment				
(Total)	558	687	838	1,097
Land Use				
(Total)	16,512	16,512	16,512	16,512
Urban	0	0	0	0
Nonurban	16,512	16,512	16,512	16,512

The length of the main stream through the segment is 6.3 miles, and the average slope of the main stream is 15.5 feet per mile. The average Q7-10 values for the segment is 0.0 cubic feet per second.

Point sources and their existing wastewater discharge characteristics, location, and treatment types are listed in Exhibit B-7.4t. Wasteload allocations for 1980 for the point sources listed in Exhibit B-7.5t; construction grant priorities are given for eligible municipalities, and segment priorities are given for domestic and industrial sources.

Exhibit B-1.6t summarizes the principal treatment levels required to meet water quality standards; disposal needs; total cost needs for treatment, infiltration/inflow corrections, interceptors, collectors, and combined sewers; and compliance goals.

Exhibit B1.3t WATER QUALITY DATA - LOUISVILLE 201 FACILITIES PLAN

Water Quality Monitoring Station	Date	Water Temperature °C	Dissolved Oxygen mg/l	pH	Coliform per 100ml Fecal/Total	Total Dissolved Solids-mg/l
Kentucky Standard ¹	-	31.7	5.0 mg/l	6-9	200/1000	500
Floyds Fork at Aiken Road	July,Oct 1973	14-23	5.2- 5.4	7.4-7.6	100/1000	320
Long Run at Shelbyville Road	July,Oct 1973	12-23	6.0- 8.0	7.6-8.0	10/1000	200
Long Run at Taylorsville Road	July-Nov 1973	11-24	6.6- 8.9	6.7-7.9	100/ 100	250-316
Pope Lick at North Pope Lick Road	July,Oct 1973	17-22	7.8- 8.1	6.9-7.9	10/1000	580
Pope Lick at Taylorsville Road	July-Nov 1973	12-24	8.0-10.1	7.8-9.4	100/1000	254-300
Floyds Fork at Brush Run Road	July,Oct 1973	15-26	7.3- 8.0	7.1-7.5	30/1000	280
Chenoweth Run at Moser Road	July 1973	20	9.0	7.6	-/2000	
Chenoweth Run at Taylorsville Road	July,Oct 1973	17-21	5.8- 6.3	7.1-7.6	30/2000	280
Chenoweth Run at Brush Run Road	July-Nov 1973	14-26	9.4-11.0	7.3-8.2	100/1900	500-526
Floyds Fork at Broad Run Road	July,Oct 1973	14-25	7.0- 9.8	7.9	200/1000	400
Floyds Fork at Bardstown Road	July-Nov 1973	14-26	7.7-10.5	7.3-7.7	100/4000	300-346
Fern Creek at Watterson Trail	July,Oct 1973	11-18	6.4- 8.9	6.8-7.6	10/19000	420
Northern Ditch at Preston Highway	Aug,Oct 1973	20	7.2- 7.7	6.8-6.9	-/1000	350
Fern Creek at Fegenbush Lane	Aug 1973	21	8.1	7.1	-/1000	
Southern Ditch at Minors Lane	Aug,Oct 1973	19-20	6.4- 8.0	7.0-7.5	-/3000	500
Cedar Creek at Bardstown Road	July 1973	26	8.1	7.5	-/1000	
Cedar Creek at Thixton Lane	Aug-Dec 1973	5-20	8.4-11.5	7.1-9.1	90/1000	384-460
McNeely Lake at Cooper Chapel Road	Aug 1973	23	6.0	6.8	-/1000	
Pennsylvania Run at Mt. Washington	Aug-Dec 1973	7-22	6.8- 9.0	7.2-7.8	200/TNTC	218-260
Wilson Creek at Marilyn Avenue	Aug,Oct 1973	18	6.3- 7.0	6.0-6.9	-/7000	480
Northern Ditch at Grade Lane	Aug-Dec 1973	8-21	4.9- 7.9	6.5-7.0	50/26000	400-434
Southern Ditch at Toll Lane	Aug 1973	21	5.6	7.0	-/1000	
Northern Ditch at Outer Loop	Aug,Oct 1973	21	3.8- 5.5	6.9	10/1000	380
Pond Creek at Manslick Road	Aug-Dec 1973	8-20	2.6- 7.2	6.8-7.4	300/8900	422-430
Pond Creek at Stonestreet Road	Aug,Oct 1973	20-23	7.0- 8.5	6.6-6.9	250/6000	430
Pond Creek at Blevins Gap Road	Sept 1973	19	4.8	7.0	-/10	200
Pond Creek at Katherine Road	Aug-Dec 1973	6-21	5.6-10.2	6.9-7.6	300/100	312-380
Salt River Upstream from Pond Creek	Aug,Dec 1973	5-21	5.4-11.2	6.9-7.0	60/59000	266
Salt River at Dixie Highway	Aug,Oct 1973	19-22	4.0- 4.3	6.1-6.8	100/50000	380

¹Parameters in italics are water quality violations.

Exhibit B1.3t WATER QUALITY DATA - U.S. GEOLOGICAL SURVEY

Water Quality Monitoring Station - Date of Sample	Stream- Flow (CFS)	Water Temp. (°C)	pH	Conduc- tivity (umhos)	Micrograms per Liter (mg/l)								
					Arsen- ic	Cad- mium	Chrom- ium	Co- balt	Cop- per	Lead	Manga- nese	Mer- cury	Zinc
Kentucky Standard	-	31.7	6-9	800	50	100	50	-	-	50	-	-	-
Pond Creek Near Louisville SP-02 April 1974 - February 1975	95	3.5/22.0	6.9	515	1/6	0/1	0/3	0/2	2/13	0/6	-	0/0.1	30/330

Exhibit B1.3t SURFACE FLOW RECORDS FOR THE SALT RIVER BASIN*

Station	Period of Record	Drainage Area sq.mi.	Average Flow cfs	Maximum Flow cfs	Minimum Flow cfs	7 day-10 yr. Low Flow cfs
Floyds Fork of Salt River at Fisherville (SF-03)	30 yr.	138	168	28,500	0.0	0.0

*Data is taken from "Surface Water Records in Kentucky" by the United States Geological Survey. The 7 day 10 year low flow was taken from waste load allocation produced as a component of the 303(e) River Basin Continuing Planning Process.

Exhibit B2.3t WATER QUALITY DATA - U.S. GEOLOGICAL SURVEY

Water Quality Monitoring Station - Date of Sample	Stream- Flow (CFS)	Water Temp. (°C)	pH	Conduc- tivity (umhos)	Micrograms per Liter (mg/l)								
					Arse- nic	Cad- mium	Chrom- ium	Co- balt	Cop- per	Lead	Manga- nese	Mer- cury	Zinc
Kentucky Standard	-	31.7	6-9	800	50	100	50	-	-	50	-	-	-
Rolling Fork at Lebanon Junc- tion SR-01 April 1975	1460	12.0	6.9	350	0	1	0	0	7	3	110	0.2	0

Exhibit B2.3t SURFACE FLOW RECORDS FOR THE SALT RIVER BASIN*

Station	Period of Record	Drainage Area sq.mi.	Average Flow cfs	Maximum Flow cfs	Minimum Flow cfs	7 day-10 yr. Low Flow cfs
Rolling Fork of Salt River at Boston (SR-02)	36 yr.	1,299	1,705	50,500	0.4	1.7

*Data is taken from "Surface Water Records in Kentucky" by the United States Geological Survey. The 7 day 10 year low flow was taken from waste load allocation produced as a component of the 303(e) River Basin Continuing Planning Process.

Exhibit B3.3t SURFACE FLOW RECORDS FOR THE SALT RIVER BASIN*

Station	Period of Record	Drainage Area sq.mi.	Average Flow cfs	Maximum Flow cfs	Minimum Flow cfs	7 day-10 yr. Low Flow cfs
Beech Fork of Salt River at Bardstown (SB-01)	35 yr.	699	894	33,900	0.0	0.2

*Data is taken from "Surface Water Records in Kentucky" by the United States Geological Survey. The 7 day 10 year low flow was taken from waste load allocation produced as a component of the 303(e) River Basin Continuing Planning Process.

Exhibit B3.3t WATER QUALITY DATA - U.S. GEOLOGICAL SURVEY

Water Quality Monitoring Station - Date of Sample	Stream- Flow (CFS)	Water Temp. (°C)	pH	Conduc- tivity (umhos)	Micrograms per Liter (mg/l)								
					Arsen- ic	Cad- mium	Chrom- ium	Co- balt	Cop- per	Lead	Manga- nese	Mer- cury	Zinc
Kentucky Standard	-	31.7	6-9	800	50	100	50	-	-	50	-	-	-
Salt River at Shepherdsville SS-02													
March 1974 - February 1975	2740	3.5/20.5	7.2	371/448	0/4	0/1	0/3	0/4	1/7	0/9	-	0/0.1	0/80
January 1970 - November 1974	-	-	6.9/8.5	170/540	0/3	0/4	0/5	-	-	0/34	1/18	-	-

Exhibit B3.3t SURFACE FLOW RECORDS FOR THE SALT RIVER BASIN*

Station	Period of Record	Drainage Area sq.mi.	Average Flow cfs	Maximum Flow cfs	Minimum Flow cfs	7 day-10 yr. Low Flow -cfs
Salt River at Shepherdsville (SS-02)	36 yr.	1,197	1,516	78,200	0.0	0.6

*Data is taken from "Surface Water Records in Kentucky" by the United States Geological Survey. The 7 day 10 year low flow was taken from waste load allocation produced as a component of the 303(e) River Basin Continuing Planning Process.

Exhibit B1.4t EXISTING DISCHARGE CHARACTERISTICS

Code Number	Facility	Location	NPDES Permit	Type of Treatment	Q7-10	Discharge Characteristics (mg/l)				
						Flow (mgd)	BOD	SS	NH ₃	Other DO
SP-01		351.50/ 0.40/ 1.80								
	R. French Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	Nicholas Sch.	NL	NP	SF	0.0	0.008	30	45	20	4
	C. Johnson Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	Chesser Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	W. Johnson Residence	NL	NP	SF	0.0	0.001	30	45	20	4
SP-02		351.50/ 0.40								
	J. Miller Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	G. Franklin Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	N. Waters Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	J. Peach Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	Gagle Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	Drake Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	J. Geary Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	Sutphin Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	W.J. Kirham Residence	NL	WP	SF	0.0	0.001	30	45	20	4
201	LEEMONT ACRES SUBDIVISION	8.20/ 0.30/ 0.40	NP	EA	0.0	0.080	20	30	15	4
202	ELYSIAN FIELDS SUBDIVISION	11.30	NP	EA	0.0	0.080	20	30	15	4
203	TARRYTOWN SUBDIVISION	11.35	NP	EA	0.0	0.135	20	30	15	4
	Old Boone Distillery	NL	0004413	L	0.0	NA	NA	NA	NA	NA
	Millard Young Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	C. Cobb Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	Samuelson Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	Stanford Residence	NL	NP	SF	0.0	0.001	30	45	20	4
204	PRAIRIE VILLAGE	12.60	NP	L	0.0	0.100	40	60	25	4
	Stonestreet Elem. Sch.	NL	NP	EA	0.0	0.008	20	30	15	4
	Poodles by George	NL	NP	EA	0.0	0.002	20	30	15	4
	Southern Central Bell Tel.	NL	NP	EA	0.0	0.001	20	30	15	4
	J. Mitchell Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	W. Judd Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	Reams Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	Morgan Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	W. Blevins Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	A. Judd Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	Snider Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	R. Grubb Residence	NL	NP	SF	0.0	0.001	30	45	20	4
205	HIDDEN VALLEY SUBDIV.	14.20	NP	EA	0.0	0.110	20	30	15	4
206	WINDSOR FOREST SUBDIV.	14.70/ 0.26	NP	EA	0.0	0.240	20	30	15	4
	Sunoco Oil Station	NL	NP	SF	0.0	0.001	30	45	20	4
	Philpott Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	Gragg Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	D. Ayers Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	E. Lauder Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	Ponderosa Trailer Pk.	NL	NP	EA	0.0	0.015	20	30	15	4
	R.L. Richardson Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	C. Phelps Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	Ray Thomas Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	C. Dockery Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	Jefferson Hill Baptist Ch.	NL	NP	ST & SF	0.0	0.001	30	45	20	4
	W. Wilson Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	H. Fields Residence	NL	NP	SF	0.0	0.001	30	45	20	4
236	TIN-DOR ESTATES SUBDIV.	16.90/ 0.57/ 1.24/ 0.70	NP	EA	0.0	0.812	20	30	15	4
207	BROOKFIELD MOBILE HOME PARK	16.00/ 1.36/	NP	EA	0.0	0.050	20	30	15	4
	McDonald Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	Harp Residence	NL	NP	SF	0.0	0.001	30	45	20	4
208	FAIRDALE ELEM. SCH.	16.00/ 1.90	NP	EA	0.0	0.050	20	30	15	4
	Big Horn Lake	NL	NP	SF	0.0	0.001	30	45	20	4
	C. Walter Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	H. Decker Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	E. Entin Residence	NL	NP	ST & SF	0.0	0.001	30	45	20	4

Exhibit B1.4t EXISTING DISCHARGE CHARACTERISTICS (CONTINUED)

Code Number	Facility	Location	NPDES Permit	Type of Treatment	Q7-10	Discharge Characteristics (mg/l)				
						Flow (mgd)	BOD	SS	NH ₃	Other DO
209	CANDLELIGHT SUBDIVISION	16.20/ 0.40	NP	EA	0.0	0.340	20	30	15	4
	Faith Lutheran Church	NL	NP	EA	0.0	0.001	30	45	20	4
265	PINECREST TRAILER COURT	16.90/ 0.13	NP	EA	0.0	0.90	20	30	15	4
	Graybell Auto Sales	NL	NP	SF	0.0	0.001	30	45	20	4
210	CONFEDERATE ACRES SUBDIV.	17.10	NP	EA	0.0	0.125	20	30	15	4
211	YORKTOWN SUBDIVISION	17.90	NP	EA	0.0	0.150	20	30	15	4
	Brown Wood Preserving Co.	NL	NP	L	0.0	NG	40	60	25	4
	International Harvester Co.	NL	NP	C/P	0.0	NG	40	60	25	4
	FORD MOTOR COMPANY	NL	NP	L	0.0	0.43	40	60	25	4
	Dixie Warehouse Cartage Co.	NL	NP	EA	0.0	0.008	20	30	15	4
	Southern States Cooperative	NL	NP	SF	0.0	0.001	30	45	20	4
	UAW Local #682	NL	NP	SF	0.0	0.001	30	45	20	4
	Electrical Workers Union	NL	NP	EA	0.0	0.001	20	30	15	4
	Almart Shopping Center	NL	NP	Drain Basin	0.0	Drain Basin	NG	NG	NG	NG
	Rudd Construction Co.	NL	NP	EA	0.0	0.001	20	30	15	4
	Suburban Concrete Co.	NL	NP	EA	0.0	0.001	20	30	15	4
	Welker Plumbing Supply	NL	NP	EA	0.0	0.001	20	30	15	4
	Henderson Electric Co.	NL	NP	EA	0.0	0.001	20	30	15	4
	Clark Mechanical Co.	NL	NP	EA	0.0	0.001	20	30	15	4
	Sumoco Oil Station	NL	NP	SF	0.0	0.001	30	45	20	4
	Helck Ave. House of Prayer	NL	NP	EA	0.0	0.001	20	30	15	4
	Peyton, Inc.	NL	NP	EA	0.0	0.003	20	30	15	4
	Jefferson Plumbing Co.	NL	NP	EA	0.0	0.001	20	30	15	4
	Motor Freight Terminal	NL	NP	EA	0.0	0.001	20	30	15	4
	L. Freeman Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	Dolt & Dew	NL	NP	SF	0.0	0.001	30	45	20	4
	Holland Motor Express	NL	NP	SF	0.0	0.001	30	45	20	4
	Henderson Electric	NL	NP	EA	0.0	0.001	20	30	15	4
	Church of the Resurrection	NL	NP	EA	0.0	0.008	20	30	15	4
	Schneider Welding Co.	NL	NP	EA	0.0	0.008	20	30	15	4
	Huber GMC	NL	NP	SF	0.0	0.008	30	45	20	4
	Air Filter Supply Co.	NL	NP	EA	0.0	0.001	20	30	15	4
	Central Glass Co.	NL	NP	SF	0.0	0.001	30	45	20	4
	Mason Dixon Express	NL	NP	EA	0.0	0.001	20	30	15	4
	Raymond Construction Co.	NL	NP	EA	0.0	0.006	20	30	15	4
	Associated Transport	NL	NP	EA	0.0	0.005	20	30	15	4
	J & L Oil Station	NL	NP	SF	0.0	0.004	30	45	20	4
	Industrial Subdivision	NL	NP	EA	0.0	0.040	20	30	15	4
	Alhom, Inc.	NL	NP	EA	0.0	0.002	20	30	15	4
	South Central Bell Tel.	NL	NP	EA	0.0	0.001	20	30	15	4
212	SHADY VILLA SUBDIVISION	17.90	NP	EA	0.0	0.250	20	30	15	4
	Liquid Transport Co.	22.10/ 1.60	0002160	L	0.0	0.030	40	60	25	4
266	LIQUID TRANSPORT CO.	22.10/ 1.60	0002160	EA	0.0	0.100	20	20	15	4
213	POPLAR LEVEL ROAD DIS.	22.10/ 160	NP	EA	0.0	0.170	20	30	15	4
	Exxon Oil Station	NL	NP	SF	0.0	0.001	30	45	20	4
	Rainbow Downs Restaurant	NL	NP	EA	0.0	0.001	30	45	20	4
	American Oil Station	NL	NP	SF	0.0	0.001	30	45	20	4
	General Electric	NL	NP	L	0.0	NG	NG	NG	NG	NG
	South Central Bell Tel.	NL	NP	EA	0.0	0.001	20	30	15	4
214	SUNSHINE-SUNGOLD SUB.	23.70	NP	EA	0.0	0.450	20	30	15	4
215	WHISPERING HILLS SUB.	24.10	NP	EA	0.0	0.320	20	30	15	4
	St. Athanasius Church	NL	NP	EA	0.0	0.008	20	30	15	4
	Hi-Li Swim Club	NL	NP	SF	0.0	0.001	30	45	15	4
216	MARION C. MOORE HIGH SCH.	24.13/ 1.20	NP	EA	0.0	0.050	20	30	15	4
	G. Guderian Residence	NL	NP	SF	0.0	0.001	30	45	20	4
267	GLEN-COE SUBDIVISION	28.80/ 0.10	NP	EA	0.0	0.100	20	30	15	4
	L. Hurt Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	Conder Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	Clark Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	Vowles Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	W. Cook Residence	NL	NP	SF	0.0	0.001	30	45	20	4
217	SHALLOW CK. SUBDIVISION	25.40	NP	EA	0.0	0.100	20	30	15	4
	Mattie B. Luhr, Sch.	NL	NP	EA	0.0	0.015	20	30	15	4
	Cedar Ck. Subdivision	26.10/ 0.20/ 0.90	NP	SF	0.0	0.001	30	45	20	4
	Hollow Ck. Swim Club	NL	NP	SF	0.0	0.001	30	45	20	4

Exhibit B1.4t EXISTING DISCHARGE CHARACTERISTICS (CONTINUED)

Code Number	Facility	Location	NPDES Permit	Type of Treatment	Q7-10	Discharge Characteristics (mg/l)				
						Flow (mgd)	BOD	SS	NH ₃	Other DO
219	WATTERFERN HILLS SUBDIV.	26.10/ 0.60	NP	EA	0.0	0.140	20	30	15	4
	J. Leisten Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	P. Willis Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	Convenient Food Mart	NL	NP	EA	0.0	0.008	20	30	15	4
220	WILDWOOD APARTMENTS	26.80/ 0.50	NP	EA	0.0	0.088	20	30	15	4
	Collier's Motel Court	NL	NP	SF	0.0	0.002	30	45	20	4
	Burger Chef Restaurant	NL	NP	EA	0.0	0.006	20	30	15	4
	Eastland Shopping Center	NL	NP	EA	0.0	0.008	20	30	15	4
	Wildwood Country Club	NL	NP	EA	0.0	0.025	20	30	15	4
221	FERN HILL SUBDIVISION	NL	NP	EA	0.0	0.200	20	30	15	4
	Fern Ck. High Sch.	27.80/ 0.90	NP	EA	0.0	0.030	20	30	15	4
	Whale Oil Station	NL	NP	SF	0.0	0.001	30	45	20	4
222	SPRING LK. FARM SUB.	NL	NP	EA	0.0	0.080	20	30	15	4
223	HILL RIDGE SUBDIVISION	29.51	NP	EA	0.0	0.127	20	30	15	4
224	NOTTINGHAM HILLS SUB.	28.80/ 0.50	NP	EA	0.0	0.060	20	30	15	4
225	HENRY WATTERSON ESTS.	29.50/ 0.10	NP	EA	0.0	0.080	20	30	15	4
226	SOUTHLAND MHP	16.90/ 0.62	NP	EA	0.0	0.054	20	30	15	4
	Universal Container Corp.	NL	NP	SF	0.0	0.001	30	45	20	4
	Mannsville Plastics	NL	NP	SF	0.0	0.001	30	45	20	4
	Barney Auto Sales	NL	NP	SF	0.0	0.001	30	45	20	4
	Bruner Aluminum	NL	NP	SF	0.0	0.001	30	45	20	4
227	WESTMINSTER MHP	16.90/ 0.62	NP	EA	0.0	0.100	20	30	15	4
	Hardy Concrete Co.	NL	NP	SF	0.0	0.001	30	45	20	4
	Dixie Irrigation Co.	NL	NP	SF	0.0	0.001	30	45	20	4
	South Pk. Baptist Ch.	NL	NP	SF	0.0	0.001	30	45	20	4
	South Pk. Drive Inn Theater	NL	NP	EA	0.0	0.001	20	30	15	4
	F & M Building	NL	NP	SF	0.0	0.001	30	45	20	4
	McGary Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	Adams Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	Shell Oil Station	NL	NP	SF	0.0	0.001	30	45	20	4
	Texaco Service Station	NL	NP	SF	0.0	0.001	30	45	20	4
	Sunoco Oil Station	NL	NP	SF	0.0	0.001	30	45	20	4
	Steadly Shopping Center	NL	NP	ST & SF	0.0	0.003	30	45	20	4
	Convenient Foot Mart	NL	NP	SF	0.0	0.002	30	45	20	4
	J & L Oil Station	NL	NP	SF	0.0	0.001	30	45	20	4
268	FRIENDLY HILLS EAST SUB.	16.90/ 1.90/ 2.30	NP	EA	0.0	0.065	20	30	15	4
228	MINOR LANE HEIGHTS SUB.	16.90/ 2.50	NP	EA	0.0	0.025	20	30	15	4
115	OKOLONA SEWER DISTRICT	16.90/ 1.90/ 2.40	0026042	EA & AL	0.0	2.000	20	30	15	4
229	SILVER HEIGHTS	16.90/ 3.50/ 1.70	NP	EA	0.0	1.350	20	30	15	4
	Wesley Manor Home for Care	NL	NP	EA	0.0	0.015	20	30	15	4
230	CINDERELLA ESTS. SUB.	16.90/ 3.80	NP	EA	0.0	0.157	20	30	15	4
		1.10								
231	TREASURE ISLAND DISTRICT	16.90/ 3.50/ 2.80	NP	EA	0.0	0.340	20	30	15	4
233	MAPLE GROVE SUBDIVISION	16.90/ 3.80/ 2.90/ 1.70	NP	EA	0.0	0.184	20	30	15	4
	Standard Service Station	NL	NP	SF	0.0	0.001	30	45	20	4
	Twilight Inn	NL	NP	ST & SF	0.0	0.001	30	45	20	4
	Charleswood Subdivision	16.90/ 3.80/ 2.90/ 1.70	NP	EA	0.0		20	30	15	4
269	VULCAN MATERIALS	16.90/ 3.80	0002691	L	0.0	0.900	45	60	25	4
	McKinney Residence	NL	NP	SF	0.0	0.001	30	45	20	4
235	GLENGARY SUBDIVISION	16.90/ 0.60	NP	EA	0.0	0.175	20	30	15	4
	Fairdale High Sch.	NL	NP	EA	0.0	0.030	20	30	15	4
	St. Jerome Ch.	NL	NP	EA	0.0	0.008	20	30	15	4
	Holly Villa Subdiv.	16.90/ 0.57/ 1.24/ 1.50	NP	EA	0.0	0.031	20	30	15	4
237	CITY OF HOLLY VILLA	16.90/ 0.57/ 1.24/ 1.50	NP	EA	0.0	0.054	20	30	15	4
	R. L. Feller Residence	NL	NP	L	0.0	0.001	40	60	25	4
	General Shale Products	NL	NP	SF	0.0	0.001	30	45	20	4
	South Pk. Country Club	NL	NP	L	0.0	0.001	40	60	25	4

Exhibit B1.4t EXISTING DISCHARGE CHARACTERISTICS (CONTINUED)

Code Number	Facility	Location	NPDES Permit	Type of Treatment	Q7-10	Discharge Characteristics (mg/l)				
						Flow (mgd)	BOD	SS	NH ₃	Other DO
SF-01		351.50/25.50								
	Standard Oil Service Sta.	NL	NP	ST & SF	0.0	0.001	30	45	20	4
242	BLUE LICK SEWER CORP.	3.73	NP	EA	0.0	0.150	20	30	15	4
243	MARYVILLE SUBDIVISION #4	3.70/ 3.50/ 0.60	NP	EA	0.0	0.240	20	30	15	4
244	MARYVILLE SUBDIVISION #2 and #3	3.70/ 4.05/ 0.90	NP	EA	0.0	0.466	20	30	15	4
245	WHEEL ESTATES OF KY.	3.70/ 4.90/ 0.10	NP	EA	0.0	0.050	20	30	15	4
	Brooks Elem. Sch.	NL	NP	EA	0.0	0.001	20	30	15	4
	Rose Ann Mobile Home Pk.	NL	NP	EA	0.0	0.001	20	30	15	4
	Hebron Jr. High Sch.	NL	NP	EA	0.0	0.001	20	30	15	4
	Lakeview Mobile Home Pk.	NL	NP	EA	0.0	0.001	20	30	15	4
246	PRESTON MOBILE HOME PK.	9.40/ 2.60/ 1.64/ 0.50	NP	EA	0.0	0.055	20	30	15	4
247	MARYVILLE SUBDIVISION #1	7.40/ 2.60/ 1.65	NP	EA	0.0	0.230	20	30	15	4
248	BULLITT HILLS SUBDIV.	7.40/ 2.70	NP	EA	0.0	0.100	20	30	15	4
	Overdale Elem. Sch.	NL	NP	EA	0.0	0.010	20	30	15	4
249	LARKGROVE SUBDIVISION	7.40/ 4.20/ 2.26/ 0.24/ 0.30	NP	EA	0.0	0.120	20	30	15	4
250	MCNEELEY LK. VILLAGE SUBD.	7.40/ 4.20/ 4.00	NP	EA	0.0	0.250	20	30	15	4
	James Costello Residence	NL	NP	SF	0.0	0.001	30	45	20	4
251	MAPLE GROVE, SECTION #5	7.40/ 4.20/ 3.30	NP	EA	0.0	0.140	20	30	15	4
	Apple Valley Subdivision	NL	NP	EA	0.0	0.045	20	30	15	4
252	PLEASANT VALLEY, SECT. #2	7.40/ 4.20/ 5.20	NP	EA	0.0	0.140	20	30	15	4
253	ZELMA FIELDS SUBDIV.	7.40/12.18/ 0.50	NP	EA	0.0	0.125	20	30	15	4
	Gainsborough Subdiv.	NL	NP	EA	0.0	0.045	20	30	15	4
255	FARMGATE SUBDIVISION	7.40/12.18/	NP	EA	0.0	0.050	20	30	15	4
	Cedar Heights Mobile Home Park	NL	NP	EA	0.0	0.031	20	30	15	4
232	KELLWOOD SUBDIVISION	7.40/12.18/ 3.00	NP	EA	0.0	0.100	20	30	15	4
	E. Weisenberger Resid.	NL	NP	SF	0.0	0.001	30	45	20	4
	W. Helm Residence	NL	NP	SF	0.0	0.001	30	45	20	4
256	CEDAR LAKE SUBDIV.	7.40/13.40/ 0.60	NP	EA	0.0	0.100	20	30	15	4
257	BIRCHWOOD SUBDIVISION	7.40/13.40/ 0.70	NP	EA	0.0	0.150	20	30	15	4
	Fern Ck. Sewer Co.	NL	NP	EA	0.0	0.020	20	30	15	4
	Derby Ready Mix Concrete	NL	NP	ST & SF	0.0	0.001	30	45	20	4
	D. Taylor Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	R. Miller Residence	NL	NP	SF	0.0	0.001	30	45	20	4
258	IDLEWOOD SUBDIVISION	7.40/15.30	NP	EA	0.0	0.600	20	30	15	4
	Mt. Washington P.O.	NL	NP	ST & SF	0.0	0.001	30	45	20	4
	Oak Mobile Home Pk.	NL	NP	EA	0.0	0.014	20	30	15	4
	Brown's Super Market	NL	NP	EA	0.0	0.001	20	30	15	4
	Fairmont Gardens	NL	NP	EA	0.0	0.006	20	30	15	4
	Leisure Pioneer Trailer Pk	NL	NP	EA	0.0	0.010	20	30	15	4
	Hidden Valley Motel	NL	NP	ST	0.0	0.001	30	45	20	4
	Hidden Valley Motel	NL	NP	EA	0.0	0.010	20	30	15	4
	H. Becker Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	Fin & Wing Restaurant	NL	NP	SF	0.0	0.001	30	45	20	4
	Bates Elem. Sch.	NL	NP	EA	0.0	0.000	20	30	15	4
	Sparrow Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	Zuercher Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	L. Shelton Residence	NL	NP	L	0.0	0.001	40	60	25	4

Exhibit B1.4t EXISTING DISCHARGE CHARACTERISTICS (CONTINUED)

Code Number	Facility	Location	NPDES Permit	Type of Treatment	Q7-10	Discharge Characteristics (mg/l)				
						Flow (mgd)	BOD	SS	NH ₃	Other DO
SF-02		351.40/25.50/24.30								
259	Phillips Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	D. Byrn Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	Chenoweth Pk. Clubhouse	NL	NP	EA	0.0	0.002	20	30	15	4
	CHENOWETH HILLS	3.40/ 1.30	NP	EA	0.0	0.200	20	30	15	4
	P. Williams Residence	NL	NP	ST	0.0	0.001	30	45	20	4
105	R. Landherr Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	J. O'Bannon Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	R. Shifflet Residence	NL	NP	SF	0.0	0.002	30	45	20	4
	CITY OF JEFFERSONTOWN	5.30	NP	AS	0.0	1.80	20	30	15	4
	Foreman Funeral Home	NL	NP	SF	0.0	0.001	30	45	20	4
	Cedar Ridge Camp	NL	NP	SF	0.0	0.001	30	45	20	4
	Clark Properties	NL	NP	SF	0.0	0.002	30	45	20	4
SF-03		351.50/25.50								
260	Iron Gate Country Club	NL	NP	EA	0.0	0.008	20	30	15	4
	W. Dowell Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	McCarthy Residence	NL	NP	L	0.0	0.001	40	60	25	4
	Herbert Jones Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	R. Dunway Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	J. Kruse Residence	NL	NP	SF	0.0	0.002	30	45	20	4
	W. Lynam Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	L. Buechler Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	H. Neal Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	Jack Wimssett Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	B. Connor Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	Totton Residence	NL	NP	SF	0.0	0.001	30	45	20	4
261	WOODLAND HILLS SUBDIV.	31.50/ 3.93	NP	EA	0.0	0.100	20	30	15	4
		1.10								
262	CROSS CK. SUBDIVISION	31.50/ 4.90	NP	EA	0.0	0.172	20	30	15	4
	Eastern High School	NL	NP	EA	0.0	0.030	20	30	15	4
	Middletown Manor Motel	NL	NP	SF	0.0	0.001	30	45	20	4
	Middletown Beauty Shop	NL	NP	ST & SF	0.0	0.001	30	45	20	4
	George's Rental	NL	NP	SF	0.0	0.001	30	45	20	4
	Sunoco Oil Station	NL	NP	SF	0.0	0.001	30	45	20	4
	Texaco Service	NL	NP	SF	0.0	0.001	30	45	20	4
	Lynn's Cafeteria	NL	NP	SF	0.0	0.008	30	45	20	4
	Ky. Fried Chicken	NL	NP	SF	0.0	0.006	30	45	20	4
	Transit Oil Station	NL	NP	SF	0.0	0.006	30	45	20	4
	Evergreen Investors	NL	NP	SF	0.0	0.001	30	45	20	4
	Furniture Showrooms	NL	NP	EA	0.0	0.010	20	30	15	4
263	STARVIEW ESTATES SUBDIV.	40.00/ 3.70/ 0.30	NP	EA	0.0	0.100	20	30	15	4
	Eastbound Rest Area I-65	NL	NP	SF	0.0	0.003	30	45	20	4
	Robert Coomer Residence	NL	NP	SF	0.0	0.002	30	45	20	4
	Whitner Young RMC	NL	NP	EA	0.0	0.015	20	30	15	4
	J. Bickers Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	Faydon Restaurant	NL	NP	SF	0.0	0.001	30	45	20	4
	B. Pearce Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	Southfield Acres Center	NL	NP	SF	0.0	0.001	30	45	20	4
	Steel Service Corp.	NL	NP	SF	0.0	0.002	30	45	20	4
	K. Montgomery Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	Shelby County Baptist Ch.	NL	NP	SF	0.0	0.002	30	45	20	4
	Middletown Mfg. Co.	NL	NP	EA	0.0	0.010	20	30	15	4
264	Pee Wee Valley Sanitarium	NL	NP	EA & L	0.0	0.017	30	10	1	8
	ASH AVENUE SEWER CO.	45.56/ 0.60/ 0.90	NP	EA & SF	0.0	0.300	20	30	15	4
264	KENTUCKY STATE REFORMA-TORY FOR WOMEN	46.00	NP	TF	0.0	0.080	30	45	20	4
	Frederick J. Schuette Res.	NL	NP	EA	0.0	0.002	20	30	15	4
	Thorn Hill Trailer Ct.	NL	NP	EA	0.0	0.002	20	30	15	4
	Crestood Elem. Sch.	NL	NP	EA	0.0	0.015	20	30	15	4

Exhibit B1.4t EXISTING DISCHARGE CHARACTERISTICS (CONTINUED)

Code Number	Facility	Location	NPDES Permit	Type of Treatment	Q7-10	Discharge Characteristics (mg/l)				
						Flow (mgd)	BOD	SS	NH ₃	Other DO
SF-4		351.50/25.50								
	Standard Service Station	NL	NP	EA	0.0	0.001	20	30	15	4
	Kentucky 53E. Crystal									
	Sun Oil Co. Serv. Sta.	NL	NP	EA	0.0	0.001	20	30	15	4
	Mo Vac Int.	NL	NP	EA	0.0	0.002	20	30	15	4
	Arco Service Station	NL	NP	EA	0.0	0.001	20	30	15	4

Exhibit B2.4t EXISTING DISCHARGE CHARACTERISTICS - AREA 2

Code Number	Facility	Location	NPDES Permit	Type of Treatment	Q7-10 cfs	Discharge Characteristics (mg/l)				
						Flow (mgd)	BOD	SS	NH ₃	Other DO
SM-01 116	FORT KNOX	351.50/ 5.80 5.00	0001917	TF	0.0	4.00	30	45	20	4
SM-02 106 238	RADCLIFF Hardin Hills Mobile Home Park Lazy Acres Trailer Pk. AIR VIEW ESTS. SUB.	351.00/ 5.80 11.84 NL NL 5.7	0022390 NP NP NP	EA EA EA EA	0.0 0.0 0.0 0.0	0.50 0.028 0.011 0.055	20 20 20 20	30 30 30 30	15 15 15 15	4 4 4 4
SR-01	Camp Crescendo Lebanon Junc. Serv. Area Lebanon Junction Central Toll Plaza, Boston J.B. Beam, Boston	351.50/11.40 NL NL 12.20/ 1.20 NL 13.30/ 4.50	NP NP NP NP NP	EA EA EA ST & SF EA	0.0 0.0 0.0 0.0 0.0	0.015 0.030 0.018 0.001 0.130	20 20 20 30 20	30 30 30 45 30	15 15 15 20 15	4 4 4 4 4
SR-02	Marathon Oil Serv. Sta. New Haven Sch. New Haven Sch.	351.50/11.40 NL NL NL	NP NP NP	EA EA EA	1.7 1.7 1.7	0.002 0.002 0.003	20 20 30	30 30 30	15 15 15	4 4 4
SR-03 240	ABBEY OF GETHSEMANE Marion Concrete Co.	351.50/11.40 NL NL	NP NP	EA NG	0.0 1.0	0.100 0.002	20 NG	30 NG	15 NG	4 NG

Exhibit B3.4t EXISTING DISCHARGE CHARACTERISTICS - AREA 3

Code Number	Facility	Location	NPDES Permit	Type of Treatment	Q7-10 cfs	Discharge Characteristics (mg/l)				
						Flow (mgd)	BOD	SS	NH ₃	Other DO
SR-04	St. Mary's College	351.50/11.40 NL	NP	EA	0.05	0.015	20	30	15	4
SR-05	Douglas Elem. Sch.	351.50/11.40 NL	NP	EA	0.0	0.002	20	30	15	4

Exhibit B4.4t EXISTING DISCHARGE CHARACTERISTICS - AREA 4

Code Number	Facility	Location	NPDES Permit	Type of Treatment	Q7-10	Discharge Characteristics (mg/l)				
						Flow (mgd)	BOD	SS	NH ₃	Other DO
SB-01		351.50/11.40/20.10								
102	Barton Distillery	20.90/ 0.50/	0002151	AL & SAN	0.0	0.460	20	30	15	4
	Bardstown Amphitheater	NL	NP	ST & SF	0.0	0.002	30	45	20	4
	BARDSTOWN	20.90/ 0.50/	0021237	TF	0.0	0.750	30	45	20	4
		0.90								
271	HEAVEN HILL DISTILLERY	20.90/ 0.50/	0001091	AL & SAN	0.0	0.10	20	30	15	4
	Humble Oil Service Station, US 31E	0.60 NL	NP	EA	0.0	0.001	20	30	15	4
SB-02		351.50/11.40/20.10/20.90								
	Mackville Elem. Sch.	NL	NP	EA	0.0	0.006	20	30	15	4
	Lincoln Homestead	NL	NP	EA	0.0	0.003	20	30	15	4
	State Park									
	Washington Elem. Sch.	NL	NP	EA	0.0	0.005	20	30	15	4
SB-03		351.50/11.40/20.14/33.70								
108	Loretto Motherhouse	NL	NP	EA	0.0	0.020	20			
	Nerina									
	Starr Hill Distillery	NL	NP	CW	0.0	0.035	NG	NG	NG	NG
	LEBANON STP	18.82	NP	EA & L	0.0	1.000	30	15	1	8
SB-04		351.80/11.40/20.10/39.10								
101	St. Catherine of Siena	NL	NP	EA	0.0	0.015	20	30	15	4
	Holy Trinity Sch.	NL	NP	EA & SF	0.0	0.002	30	45	20	4
	Marion County High Sch.	NL	NP	ST & SF	0.0	0.016	30	45	20	4
	SPRINGFIELD	6.40/ 4.50	002097	TF	0.0	0.320	30	45	20	4
	Armour Company	NL	NP	L	0.0	0.010	40	60	25	4
SB-05		351.50/11.40/20.10/49.80								
114	Calvary Christian Assembly	NL	NP	ST & SF	0.0	0.004	30	45	20	4
	Calvary Christian Youth Camp	NL	NP	ST & SF	0.0	0.004	30	45	20	4
	Perryville Battlefield State	NL	NP	EA	0.0	0.002	20	30	15	4
	PERRYVILLE	81.70	NP	EA	0.0	0.100	20	30	15	4
	Perryville Sch.	NL	NP	EA	0.0	0.005	20	30	15	4
SB-06		351.50/11.40/20.10/49.80/82.80								
	NONE									

Exhibit B5.4t EXISTING DISCHARGE CHARACTERISTICS - AREA 5

Code Number	Facility	Location	NPDES Permit	Type of Treatment	Q7-10	Discharge Characteristics (mg/l)				
						Flow (mgd)	BOD	SS	NH ₃	Other DO
SS-01	None	351.50								
SS-02		351.50								
113	SHEPHERDSVILLE	22.80	NP	EA	0.70	0.30	20	30	15	4
SS-03		351.50								
239	J.B. BEAM	11.40/13.30/ 4.50	NP	AL & S	0.0	1.03	30	45	20	4
SS-04	None	351.5								
SB-05		351.5								
	Joseph E. Seagram	34.10/ 3.40/ 9.90	0002313	L	0.0	0.027	30	45	20	4
	Nazareth Academy	NL	NP	EA	0.0	0.010	20	30	15	4
	Nelson Co. Vocational School	NL	NP	EA	0.0	0.015	20	30	15	4
SS-06		351.50								
112	BLOOMFIELD	49.70/ 6.80/ 1.56	NP	EA & AL	0.0	0.150	30	10	1	8
	Central Ky. Toll Plaza	NL	NP	ST & SF	0.0	0.001	30	45	20	4
SS-07		351.50								
111	TAYLORSVILLE STP	55.595	NP	EA	0.50	0.100	20	30	15	4
	Good News Club	NL	NP	ST & SF	0.0	0.003	30	45	20	4
SS-08		351.50								
	Simpsonville Sch.	NL	NP	ST & SF	0.0	0.009	30	45	20	4
	R. Dunaway Residence	NL	NP	SF	0.0	0.001	30	45	20	4
	State Hwy. Garage	NL	NP	EA	0.0	0.005	20	30	15	4

Exhibit B6.4t EXISTING DISCHARGE CHARACTERISTICS - AREA 6

Code Number	Facility	Location	NPDES Permit	Type of Treatment	Q7-10	Discharge Characteristics (mg/l)				
						Flow (mgd)	BOD	SS	NH ₃	Other DO
SS-09		351.50								
110	Westbound Rest Area I-64	NL	NP	EA	0.0	0.003	20	30	15	4
	Beef & Boards	NL	NP	EA	0.0	0.005	20	30	15	4
	Purnell Sausage Co.	NL	NP	AS & SAN	0.0	0.020	30	45	20	4
	Sanders Cafe	NL	NP	EA	0.0	0.006	20	30	15	4
	EMINENCE	55.90/25.60/ 10.30/13.90	NP	EA	0.0	0.170	20	30	15	4
SS-10	None	351.50								
SS-11		351.50								
	Hayes Farm Center	NL	NP	EA	0.0	0.001	20	30	15	4
	Shelby Motel & Jerry's Restaurant	NL	NP	EA	0.0	0.020	20	30	15	4
	Ken Acres Subdivision	NL	NP	EA	0.0	0.020	20	30	15	44
	Maintenance & Traffic Building	NL	NP	EA	0.0	0.002	20	30	15	4
SS-12		351.50/55.90								
107	Shelby County Industrial Foundation	NL	NP	EA	0.0	0.015	20	30	15	4
	SHELBYVILLE	34.60	0020427	TF	0.0	1.320	30	45	20	4
	Marshall Trailer Court	NL	NP	EA	0.0	0.010	20	30	15	4
	Coca Cola Shelbyville	NL	NP	AL	0.0	0.010	30	45	20	4
	Town-N-Country	NL	NP	EA	0.0	0.013	30	45	20	4
	Hazel Lawn Subdivision	NL	NP	EA	0.0	0.010	30	45	20	4
	Upper Elem. Sch.	NL	NP	EA	0.0	0.002	20	30	15	4
	Old Mason's Home	NL	NP	EA	0.0	0.010	20	30	15	4
	John Waits Apt.	NL	NP	EA	0.0	0.012	20	30	15	4
	Baker Nursing Home	NL	NP	EA	0.0	0.005	20	30	15	4
	Shelby Co. High Sch.	NL	NP	EA	0.0	0.008	20	30	15	4
	Cedarmore Baptist Assembly	NL	NP	EA	0.0	0.010	20	30	15	4
	Finchville Elem. Sch.	NL	NP	EA	0.0	0.003	20	30	15	4

Exhibit B7.4t EXISTING DISCHARGE CHARACTERISTICS - AREA 7

Code Number	Facility	Location	NPDES Permit	Type of Treatment	Q7-10	Discharge Characteristics (mg/l)				
						Flow (mgd)	BOD	SS	NH ₃	Other DO
SS-13	None									
SS-14	Western School	351.00 NL	NP	ST & SF	0.0	0.003	30	45	20	4
SS-15	Florida Tile Co. Florida Tile Co. Watts & Durr Oil Co. LAWRENCEBURG STP	351.50/88.50 NL NL NL 4.20/ 1.80	NP NP NP 0021067	EA EA EA TF & AL	0.0 0.0 0.0 0.0	0.005 0.010 0.001 0.500	20 20 20 30	30 30 30 45	15 15 15 20	4 4 4 4
SS-16	Paul D. Shryock Glenview Subdivision JOSEPH E. SEAGRAM LAWRENCEBURG	351.50 NL NL 88.50/ 5.20/ 1.90	NP NP NP 0005580	ST & SF EA A & L	0.0 0.0 0.0	0.001 0.008 0.175	30 20 30	45 30 45	20 15 20	4 4 4
SS-17	Brentwood Subdivision HALL-MACK CO. HARRODSBURG STP Clark & Keller Oil Co. Clark & Keller Oil Serv. Bright Leaf Estates Bright Leaf Motel	351.50 NL 128.60/ 1.10/ 0.70 128.60/ 1.40 NL NL NL NL	NP NP NP NP NP NP NP	EA O/P TF EA EA EA EA	0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.025 0.240 0.650 0.005 0.001 0.001 0.001	20 NG 30 20 20 20 20	30 NG 45 30 30 30 30	15 NG 20 15 15 15 15	4 NG 4 4 4 4 4
SS-18	None	351.50								

Exhibit B-1.5t WASTELOAD ALLOCATIONS AND PRIORITY FOR AREA 1, 1980
(SP-01, SP-02, SF-01, SF-02, SF-03, SF-04)

Code Number	Facility	TMDL	Proposed Effluent Characteristics (mg/l / #/day)						Grant or Seg. Priority
			Flow mgd	BOD ₅	SS	NH ₃	DO mg/l	Other	
SP-01									
	R. French Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		0.0
	Nicholas School	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		0.0
	C. Johnson Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		0.0
	Chesser Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		0.0
	W. Johnson Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		0.0
SP-02									
	J. Miller Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	G. Franklin Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	N. Waters Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	J. Peace Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	Gagle Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	Drake Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	J. Geary Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	Sutphin Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	W.J. Kirham Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
201	LEEMONT ACRES SUBDIV.	0.0	0.0	0/ 0	0/ 0	0/ 0	0		2,236.0
202	ELYSIAN FIELDS SUBDIV.	0.0	0.0	0/ 0	0/ 0	0/ 0	0		2,236.0
203	TARRYTOWN SUBDIVISION	0.0	0.0	0/ 0	0/ 0	0/ 0	0		2,236.0
	Old Boone Distillery	NA	NA	NA	NA	NA	NA		2,236.0
	Millard Young Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	C. Cobb Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	Samuelson Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	Stanford Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	Prairie Village Subdiv.	0.0	0.0	0/ 0	0/ 0	0/ 0	0		2,236.0
	Stonestreet Elem. Sch.	1.33	0.008	10/ 0.667	15/ 1.001	1/ 0.067	8		2,236.0
	Poodles by George	0.33	0.002	20/ 0.334	30/ 0.500	15/ 0.250	4		2,236.0
	South Central Bell Tel.	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	J. Mitchell Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	W. Judd Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	Reams Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	Morgan Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	W. Blevins Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	A. Judd Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	Snider Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	R. Grubb Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
205	HIDDEN VALLEY SUBDIV.	0.0	0.0	0/ 0	0/ 0	0/ 0	0		2,236.0
206	WINDSOR FOREST SUBDIV.	0.0	0.0	0/ 0	0/ 0	0/ 0	0		2,236.0
	Sunoco Oil Station	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	Philpott Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	Gragg Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	D. Ayers Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	E. Lauder Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	Ponderosa Trailer Pk.	2.50	0.015	10/ 1.251	15/ 1.877	1/ 0.125	8		2,236.0
	R.L. Richardson Resid.	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	C. Phelps Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	Ray Thomas Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	C. Dockery Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	Jefferson Hill Baptist Ch.	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	W. Wilson Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	H. Fields Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
207	BROOKFIELD MOBILE HOME PK.	8.34	0.050	10/ 4.170	15/ 6.255	1/ 0.417	8		2,236.0
	McDonald Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	Harp Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
208	FAIRDALE ELEM. SCH.	8.34	0.050	10/ 4.170	15/ 6.255	1/ 0.417	8		2,236.0
	Big Horn Lake	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	C. Walter Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	H. Decker Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	E. Entin Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
209	CANDLELIGHT SUBDIVISION	56.71	0.340	10/ 28.360	15/ 42.530	1/ 2.836	8		2,236.0
	Faith Lutheran Church	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
265	PINECREST TRAILER COURT	15.01	0.090	10/ 7.506	15/ 11.260	1/ 0.751	8		2,236.0

Exhibit B-1.5t WASTELOAD ALLOCATIONS AND PRIORITY FOR AREA 1, 1980
(SP-01, SP-02, SF-01, SF-02, SF-03, SF-04)

Code Number	Facility	TMDL	Proposed Effluent Characteristics (mg/l / #/day)						Grant or Seg. Priority
			Flow mgd	BOD ₅	SS	NH ₃	DO mg/l	Other	
210	Graybell Auto Sales	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
211	CONFEDERATE ACRES SUBD.	20.85	0.125	10/ 10.430	15/ 15.640	1/ 1.043	8		2,236.0
	YORKTOWN SUBDIVISION	25.02	0.150	10/ 12.510	15/ 18.770	1/ 1.251	8		2,236.0
	Brown Wood Preserving Co.	NG	NG	NG	NG	NG	NG		2,236.0
	International Harvester	NG	NG	NG	NG	NG	NG		2,236.0
	Ford Motor Company	7.17	0.043	10/ 3.586	15/ 5.379	1/ 0.359	8		2,236.0
	Dixie Warehouse Cartage Co.	1.33	0.008	10/ 0.667	15/ 1.001	1/ 0.067	8		2,236.0
	Southern States Cooperative	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	UAW Local #682	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	Electrical Workers Union	0.33	0.002	20/ 0.334	30/ 0.500	15/ 0.250	4		2,236.0
	Almart Shopping Center	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	Rudd Construction Co.	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	Suburban Concrete Co.	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	Welker Plumbing Supply	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	Henderson Electric Co.	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	Clark Mechanical Co.	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	Sunoco Oil Station	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	Helck Ave. House of Prayer	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	Peyton, Inc.	0.50	0.003	10/ 0.250	15/ 0.375	1/ 0.025	8		2,236.0
	Jefferson Plumbing Co.	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	Motor Freight Terminal	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	L. Freeman Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	Dolt & Dew	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	Holland Motor Express	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	Henderson Electric	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	Church of the Resurrection	1.33	0.008	10/ 0.667	15/ 1.001	1/ 0.067	8		2,236.0
	Schneider Welding Co.	1.33	0.008	10/ 0.667	15/ 1.001	1/ 0.067	8		2,236.0
	Huber GMC	1.33	0.008	10/ 0.667	15/ 1.001	1/ 0.067	8		2,236.0
	Air Filter Supply Co.	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	Central Glass Co.	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	Mason Dixon Express	1.00	0.006	10/ 0.500	15/ 0.751	1/ 0.050	8		2,236.0
	Raymond Construction Co.	0.83	0.005	10/ 0.417	15/ 0.626	1/ 0.042	8		2,236.0
	Associated Transport	0.68	0.004	10/ 0.334	15/ 0.500	1/ 0.033	8		2,236.0
	J & L Oil Station	0.17	0.001	20/ 0.167	30/ 2.250	15/ 0.125	4		2,236.0
	Industrial Subdivision	6.67	0.040	10/ 3.336	15/ 5.004	1/ 0.334	8		2,236.0
	Alhom, Inc.	0.33	0.002	20/ 0.334	30/ 0.500	15/ 0.250	4		2,236.0
212	South Central Bell Tel.	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	SHADY VILLA SUBDIVISION	41.70	0.250	10/ 20.850	15/ 31.280	1/ 2.085	8		2,236.0
	Liquid Transport Co.	50.04	0.030	10/ 25.020	15/ 37.530	1/ 2.085	8		2,236.0
	Liquid Transport Co.	16.68	0.010	10/ 8.340	15/ 12.510	1/ 0.834	8		2,236.0
213	POPLAR LEVEL ROAD DIS.	28.36	0.170	10/ 14.180	15/ 21.270	1/ 1.418	8		0.0
	Exxon Oil Station	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	Rainbow Downs Restaurant	0.83	0.005	10/ 0.417	15/ 0.626	1/ 0.042	8		2,236.0
	American Oil Station	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	General Electric	NG	NG	NG	NG	NG	NG		2,236.0
	South Central Bell Tel.	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
214	SUNSHINE-SUNGOLD SUBD.	75.06	0.450	10/ 37.530	15/ 56.300	1/ 3.753	8		2,236.0
215	WHISPERING HILLS SUBD.	53.38	0.320	10/ 26.690	15/ 40.030	1/ 2.669	8		2,236.0
	St. Athanasius Church	1.33	0.008	10/ 0.667	15/ 1.001	1/ 0.068	8		2,236.0
	Hi-Li Swin Club	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
216	MARION C. MOORE HIGH SCH.	8.34	0.050	10/ 4.170	15/ 6.255	1/ 0.417	8		2,236.0
	G. Guderian Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
267	GLEN-COE SUBDIVISION	16.68	0.100	10/ 8.340	15/ 12.510	1/ 0.834	8		2,236.0
	L. Hurt Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	Condor Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	Clark Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	Vowles Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	W. Cook Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
217	SHALLOW CK. SUBD.	16.68	0.100	10/ 8.340	15/ 12.510	1/ 0.834	8		2,236.0
	Mattie B. Luhr Sch.	2.50	0.015	10/ 1.251	15/ 1.877	1/ 0.125	8		2,236.0
218	CEDAR CK. SUBD.	33.36	0.200	10/ 16.680	15/ 25.020	1/ 1.668	8		2,236.0
	Hollow Ck. Swim Club	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
219	WATTERFERN HILLS SUBD.	23.35	0.140	10/ 11.680	15/ 17.510	1/ 1.168	8		2,236.0
	J. Leisten Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	P. Willis Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0

Exhibit B-1.5t WASTELOAD ALLOCATIONS AND PRIORITY FOR AREA 1, 1980
(SP-01, SP-02, SF-01, SF-02, SF-03, SF-04)

Code Number	Facility	TMDL	Proposed Effluent Characteristics (mg/l / #/day)						Grant or Seg. Priority
			Flow mgd	BOD ₅	SS	NH ₃	DO mg/l	Other	
220	Convenient Food Mart	1.33	0.008	10/ 0.667	15/ 1.001	1/ 0.067	8		2,236.0
	WILDWOOD APARTMENTS	14.68	0.088	10/ 7.339	15/ 11.010	1/ 0.734	8		2,236.0
	Collier's Motel Court	0.33	0.002	20/ 0.334	30/ 0.500	15/ 0.250	4		2,236.0
	Burger Chef Restaurant	1.00	0.006	10/ 0.500	15/ 0.751	1/ 0.050	8		2,236.0
	Eastland Shopping Center	1.33	0.008	10/ 0.667	15/ 1.001	1/ 0.067	8		2,236.0
	Wildwood Country Club	4.17	0.025	10/ 2.085	15/ 3.128	1/ 0.209	8		2,236.0
221	FERN HILLS SUBDIVISION	33.36	0.200	10/ 16.680	15/ 25.020	1/ 1.668	8		2,236.0
	Fern Ck. High Sch.	5.00	0.030	10/ 2.502	15/ 3.753	1/ 0.939	8		2,236.0
	Whale Oil Station	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
222	SPRING LK. FARM SUBD.	13.34	0.080	10/ 6.672	15/ 10.010	1/ 0.667	8		2,236.0
223	HILL RIDGE SUBDIVISION	21.18	0.127	10/ 10.590	15/ 15.890	1/ 1.059	8		2,236.0
224	NOTTINGHAM HILLS SUBD.	10.01	0.060	10/ 5.004	15/ 7.506	1/ 0.500	8		2,236.0
225	HENRY WATERSON ESTS.	13.34	0.080	10/ 6.672	15/ 10.010	1/ 0.667	8		2,236.0
226	SOUTHLAND MHP	9.01	0.054	10/ 4.504	15/ 6.755	1/ 0.450	8		2,236.0
	Universal Container Corp.	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	Mannsville Plastics	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	Barney Auto Sales	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	Bruner Aluminum	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
227	WESTMINISTER MHP	16.68	0.100	10/ 8.340	15/ 12.510	1/ 0.834	8		2,236.0
	Hardy Concrete Co.	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	Dixie Irrigation Co.	0.83	0.005	10/ 0.417	15/ 0.626	1/ 0.042	8		2,236.0
	South Pk. Baptist Ch.	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	South Pk. Drive In Theater	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	F & M Building	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	McGary Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	Adams Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	Shell Oil Station	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	Texaco Service Station	0.17	0.001	20/ 0.167	20/ 0.250	15/ 0.125	4		2,236.0
	Sunoco Oil Station	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	Steadly Shopping Center	0.50	0.003	10/ 0.250	15/ 0.375	1/ 0.025	8		2,236.0
	Convenient Food Mart	0.33	0.002	20/ 0.334	30/ 0.500	15/ 0.250	4		2,236.0
	J & L Oil Station	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
268	FRIENDLY HILLS EAST SUBD.	10.84	0.065	10/ 5.421	15/ 8.132	1/ 0.542	8		2,236.0
228	MINOR LANE HEIGHTS SUBD.	41.70	0.250	10/ 20.850	15/ 31.280	1/ 2.085	8		2,236.0
115	OKOLONA SEWER DISTRICT	333.60	2.000	10/166.800	15/250.200	1/ 16.68	8		4,401.0
229	SILVER HEIGHTS	225.18	1.350	10/112.600	15/168.900	1/ 11.26	8		2,236.0
	Wesley Manor Home for Care	2.50	0.015	10/ 1.251	15/ 1.877	1/ 0.125	8		2,236.0
230	CINDERELLA ESTS. SUBD.	26.19	0.157	10/ 13.090	15/ 19.640	1/ 1.309	8		2,236.0
231	TREASURE ISLAND DIST.	56.71	0.340	10/ 28.360	15/ 42.530	1/ 2.836	8		2,236.0
233	MAPLE GROVE SUBDIVISION	30.69	0.184	10/ 15.350	15/ 23.020	1/ 1.535	8		2,236.0
	Standard Service Station	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	Twilight Inn	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
234	CHARLESWOOD SUBDIVISION	26.35	0.158	10/ 13.180	15/ 19.770	1/ 1.318	8		2,236.0
269	VULCAN METALS	150.12	0.900	10/ 75.060	15/112.060	1/ 7.506	8		2,236.0
	McKinney Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
235	GLENGARY SUBDIVISION	29.19	0.175	10/ 14.500	15/ 21.890	1/ 1.460	8		2,236.0
	Fairdale High School	5.00	0.030	10/ 2.502	15/ 3.753	1/ 0.250	8		2,236.0
	St. Jerome Church	1.33	0.008	10/ 0.667	15/ 1.001	1/ 0.067	8		2,236.0
236	TIN-DOR ESTATES SUBD.	13.51	0.081	10/ 6.755	15/ 10.130	1/ 0.676	8		2,236.0
	Holly Villa Subdivision	5.17	0.031	10/ 2.585	15/ 3.878	1/ 0.259	8		2,236.0
237	CITY OF HOLLY VILLA	9.01	0.054	10/ 4.504	15/ 6.755	1/ 0.450	8		4,472.0
	R.L. Feller Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	General Shale Products	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
	South Pk. Country Club	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		2,236.0
SF-01									
	Standard Oil Service Sta.	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		915.1
242	BLUE LICK SEWER CORP.	25.02	0.150	10/ 12.510	15/ 18.770	1/ 1.251	8		915.1
243	MARYVILLE SUBDIVISION #4	40.03	0.240	10/ 20.020	15/ 30.020	1/ 2.002	8		915.1
244	MARYVILLE SUBDIVISION #2,#3	77.73	0.466	10/ 38.860	15/ 58.300	1/ 3.886	8		915.1
245	WHEEL ESTATES OF KY.	8.34	0.050	10/ 4.170	15/ 6.255	1/ 0.417	8		915.1
	Brooks Elem. School	1.67	0.010	10/ 0.834	15/ 1.251	1/ 0.083	8		915.1
	Rose Ann Mobile Home Pk.	2.50	0.015	10/ 1.251	15/ 1.877	1/ 0.125	8		915.1
	Hebron Jr. High Sch.	3.34	0.020	10/ 1.668	15/ 2.502	1/ 0.167	8		915.1

Exhibit B-1.5t WASTELOAD ALLOCATIONS AND PRIORITY FOR AREA 1, 1980
(SP-01, SP-02, SF-01, SF-02, SF-03, SF-04)

Code Number	Facility	TMDL	Proposed Effluent Characteristics (mg/l / #/day)						Grant or Seg. Priority
			Flow mgd	BOD ₅	SS	NH ₃	DO mg/l	Other	
246	Lakeview Mobile Home Pk.	2.00	0.012	10/ 1.001	15/ 1.501	1/ 0.100	8		915.1
	PRESTON MOBILE HOME PK.	9.17	0.055	10/ 4.587	15/ 6.881	1/ 0.459	8		915.1
247	MARYVILLE SUBDIVISION #1	38.36	0.230	10/ 19.180	15/ 28.770	1/ 1.918	8		915.1
248	BULLITT HILLS SUBDIVISION	16.68	0.100	10/ 8.340	15/ 12.510	1/ 0.834	8		915.1
249	Overdale Elem. Sch.	1.67	0.010	10/ 0.834	15/ 1.251	1/ 0.083	8		915.1
	LARKGROVE SUBDIVISION	20.02	0.120	10/ 10.010	15/ 15.010	1/ 1.001	8		915.1
250	MCNEELEY LK. VILLAGE SUB.	34.19	0.205	10/ 17.100	15/ 25.650	1/ 1.710	8		915.1
251	James Costello Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		915.1
	MAPLE GROVE, SECT. #5	23.35	0.140	10/ 11.680	15/ 17.510	1/ 1.168	8		915.1
252	Apple Valley Subdiv.	7.51	0.045	10/ 3.753	15/ 5.630	1/ 0.375	8		915.1
	PLEASANT VALLEY, SECT. 2	23.35	0.140	10/ 11.680	15/ 17.510	1/ 1.168	8		915.1
253	ZELMA FIELDS SUBDIV.	20.85	0.125	10/ 10.430	15/ 15.640	1/ 1.043	8		915.1
251	Gainsborough Sudiv.	7.51	0.045	10/ 3.753	15/ 5.630	1/ 0.375	8		915.1
	FARMGATE SUBDIVISION	8.34	0.050	10/ 4.170	15/ 6.255	1/ 0.417	8		915.1
232	Cedar Heights	5.17	0.031	10/ 2.585	15/ 3.878	1/ 0.259	8		915.1
	Mobile Home Pk.								
256	KELLWOOD SUBDIV.	16.68	0.100	10/ 8.340	15/ 12.510	1/ 0.834	8		915.1
	E. Weisenberger Resid.	0.17	0.001	20/ 0.167	20/ 0.250	15/ 0.125	4		915.1
257	W. Helm Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		915.1
	CEDAR LAKE SUBDIV.	16.68	0.100	10/ 8.340	15/ 12.510	1/ 0.834	8		915.1
258	BIRCHWOOD SUBDIV.	25.02	0.150	10/ 12.510	15/ 18.770	1/ 1.251	8		915.1
	Fern Ck. Sewer Co.	3.34	0.020	10/ 1.668	15/ 2.502	1/ 0.167	8		915.1
258	Derby Ready Mix Concrete	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		915.1
	D. Taylor Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		915.1
258	R. Miller Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		915.1
	IDLEWILD SUBDIVISION	100.08	0.600	10/ 50.040	15/ 75.060	1/ 5.004	8		915.1
258	Mt. Washington P.O.	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		915.1
	Oak Mobile Home Pk.	2.34	0.014	10/ 1.168	15/ 1.751	1/ 0.117	8		915.1
258	Brown's Super Market	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		915.1
	Fairmont Gardens	1.00	0.006	10/ 0.500	15/ 0.751	1/ 0.050	8		915.1
258	Leisure Pioneer	1.67	0.010	10/ 0.834	15/ 1.251	1/ 0.083	8		915.1
	Trailer Park								
258	Hidden Valley Motel	0.17	0.001	20/ 0.107	30/ 0.250	15/ 0.125	4		915.1
	Hidden Valley Motel	1.67	0.010	10/ 0.834	15/ 1.251	1/ 0.083	8		915.1
258	H. Becker Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		915.1
	Fin & Wing Restaurant	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		915.1
258	Bates Elem. School	1.67	0.010	10/ 0.830	15/ 1.250	1/ 0.083	8		915.1
	Sparrow Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		915.1
258	Zuercher Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		915.1
	L. Shelton Residence	0.07	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		915.1
SF-02									
259	Phillips Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		467.3
	D. Byrn Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		467.3
259	Chenoweth Pk. Clubhouse	0.33	0.002	20/ 0.330	30/ 0.500	15/ 0.250	4		467.3
	CHENOWETH HILLS	33.36	0.200	10/ 16.680	15/ 25.020	1/ 1.670	8		467.3
259	P. Williams Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		467.3
	R. Lanherr Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		467.3
259	J. O'Bannon Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		467.3
	R. Shifflet Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		467.3
105	CITY OF JEFFERSONTOWN	300.24	1.800	10/150.100	15/225.200	1/15.010	8		1,766.0
	Foreman Funeral Home	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		467.3
105	Cedar Ridge Camp	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		467.3
	Clark Properties		0.002	20/ 0.330	30/ 0.500	15/ 0.125	4		467.3
SF-03									
259	Iron Gate Country Club	1.33	0.008	10/ 0.667	15/ 1.008	1/ 0.067	8		296.2
	W. Dowell Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		296.2
259	McCarthy Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		296.2
	Herbert Jones Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		296.2
259	R. Dunaway Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		296.2
	J. Kruse Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		296.2
259	W. Lynam Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		296.2

Exhibit B-1.5t WASTELOAD ALLOCATIONS AND PRIORITY FOR AREA 1, 1980
(SP-01, SP-02, SF-01, SF-02, SF-03, SF-04)

Code Number	Facility	TMDL	Proposed Effluent Characteristics (mg/l / #/day)						Grant or Seg. Priority
			Flow mgd	BOD ₅	SS	NH ₃	DO mg/l	Other	
260	L. Buechler Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		296.2
	H. Neal Residence	0.17	0.001	20/ 0.167	20/ 0.250	15/ 0.125	4		296.2
261	Jack Wimsett Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		296.2
	B. Connor Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		296.2
	Totton Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		296.2
	WOODLAND HILLS SUBDIV.	16.68	0.100	10/ 8.340	15/ 12.510	1/ 0.834	8		296.2
	CROSS CK. SUBDIV.	28.69	0.172	10/ 14.340	15/ 21.520	1/ 1.434	8		296.2
	Eastern High School	5.00	0.030	10/ 2.502	15/ 3.753	1/ 0.250	8		296.2
	Middletown Manor Motel	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		296.2
	Middletown Beauty Shop	0.17	0.001	20/ 0.167	20/ 0.250	15/ 0.125	4		296.2
	George's Rental	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		296.2
	Sunoco Oil Station	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		296.2
	Texaco Service Sta.	0.17	0.001	20/ 0.167	20/ 0.250	15/ 0.125	4		296.2
	Lynn's Cafeteris	1.33	0.008	10/ 0.667	15/ 1.001	1/ 0.067	8		296.2
	Ky. Fried Chicken	1.00	0.006	10/ 0.500	15/ 0.751	1/ 0.050	8		296.2
	Transit Oil Station	1.00	0.006	10/ 0.500	15/ 0.751	1/ 0.050	8		296.2
	Evergreen Investors	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		296.2
	Furniture Showrooms	1.67	0.010	10/ 0.834	15/ 1.251	1/ 0.083	8		296.2
262	STARVIEW ESTATES SUBD.	16.68	0.100	10/ 8.340	15/ 12.510	1/ 0.834	8		296.2
	Eastbound Rest Area I-64	0.50	0.003	10/ 0.250	15/ 0.375	1/ 0.025	8		296.2
	Robert Coomer Residence	0.33	0.002	20/ 0.334	30/ 0.500	15/ 0.250	4		296.2
	Whitner Young RMC	2.50	0.015	10/ 1.251	15/ 1.877	1/ 0.125	8		296.2
	J. Bickers Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		296.2
	Faydon Restaurant	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		296.2
	B. Pearce Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		296.2
	Southfield Acres Center	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		296.2
	Steel Service Corp.	0.33	0.002	20/ 0.334	30/ 0.500	15/ 0.250	4		296.2
	K. Montgomery Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		296.2
	Shelby County	0.33	0.002	20/ 0.034	30/ 0.500	15/ 0.250	4		296.2
	Baptist Association								
	Middletown Mfg. Co.	1.67	0.010	10/ 0.834	15/ 1.251	1/ 0.083	8		296.2
	Pee Wee Valley Sanitarium	2.84	0.017	10/ 1.418	15/ 2.127	1/ 0.142	8		296.2
263	ASH AVENUE SEWER CO.	50.04	0.300	10/ 25.020	15/ 37.530	1/ 2.502	8		296.2
264	KENTUCKY STATE REFORMA- TORY FOR WOMEN	13.34	0.080	10/ 6.672	15/ 10.010	1/ 0.667	8		296.2
	Frederick J. Schuette Res.	0.33	0.002	20/ 0.334	30/ 0.500	15/ 0.250	8		296.2
	Thorn Hill Trailer Ct.	0.33	0.002	20/ 0.334	30/ 0.500	15/ 0.250	4		296.2
	Crestwood Elem. Sch.	2.50	0.015	10/ 1.251	15/ 1.872	1/ 0.125	8		296.2
SF-04									
	Standard Service Sta.	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		3.3
	Kentucky 53E. Crystal								
	Sun Oil Co. Service Sta.	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		3.3
	Mo Vac Int.	0.33	0.002	20/ 0.334	30/ 0.500	15/ 0.250	4		3.3
	Arco Service Station	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		3.3

Exhibit B-2.5t WASTELOAD ALLOCATIONS AND PRIORITY FOR AREA 2, 1980
(SM-01, SM-02, SR-01, SR-02, SR-03)

Code Number	Facility	TMDL	Proposed Effluent Characteristics (mg/l / #/day)						Grant or Seg. Priority
			Flow mgd	BOD ₅	SS	NH ₃	DO mg/l	Other	
SM-01									
116	FORT KNOX	667.20	4.000	10/333.600	15/500.400	1/ 33.360	8		330.7
SM-02									
106	RADCLIFF	83.40	0.500	10/ 41.700	15/ 62.550	1/ 4.170	3		425.0
	Hardins Mills Mobile	4.67	0.028	10/ 2.335	15/ 3.503	1/ 0.234	8		227.0
	Home Park								
	Lacy Acres Trailer Pk.	1.83	0.011	10/ 0.917	15/ 1.376	1/ 0.092	8		227.0
238	AIR VIEW ESTS. SUBDIV.	9.17	0.055	10/ 4.587	15/ 6.881	1/ 0.459	8		227.0
SR-01									
	Camp Crescendo	2.50	0.015	10/ 1.251	15/ 1.877	1/ 0.125	8		56.3
	Lebanon Junct. Serv. Area	5.00	0.030	10/ 2.502	15/ 3.753	1/ 0.250	8		56.3
	Lebanon Junction	3.00	0.018	10/ 1.501	15/ 2.252	1/ 0.150	8		157.0
	Central Toll Plaza, Boston	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		56.3
239	J.B. BEAM, BOSTON	21.68	0.130	10/ 10.840	15/ 16.260	1/ 1.084	8		56.3
SP-02									
	Marathon Oil Service Sta.	0.33	0.002	20/ 0.334	30/ 0.500	15/ 0.250	4		23.1
	New Haven School	0.33	0.002	20/ 0.334	30/ 0.500	15/ 0.250	4		23.1
	New Haven School	0.50	0.003	10/ 0.250	15/ 0.375	1/ 0.025	8		23.1
SR-03									
240	ABBEE OF GETHSEMANE	0.17	0.100	20/ 0.167	30/ 0.250	15/ 0.125	4		29.1
	Marion Concrete Co.	0.33	0.002	20/ 0.334	30/ 0.500	15/ 0.250	4		39.1

Exhibit B-3.5t WASTELoad ALLOCATIONS AND PRIORITY FOR AREA 3, 1980 (SR-04, SR-05)

Code Number	Facility	TMDL	Proposed Effluent Characteristics (mg/l / #/day)						Grant or Seg. Priority
			Flow mgd	BOD ₅	SS	NH ₃	DO mg/l	Other	
SR-04	St. Mary's College	2.50	0.015	10/1.251	15/1.877	1/0.125	8		3.1
SR-05	Douglas Elem. School	0.33	0.002	20/0.334	30/0.500	15/0.250	4		3.5

Exhibit B-4.5t WASTELOAD ALLOCATIONS AND PRIORITY FOR AREA 4, 1980
(SB-01, SB-02, SB-03, SB-04, SB-05, SB-06)

Code Number	Facility	TMDL	Proposed Effluent Characteristics (mg/l / #/day)						Grant or Seg. Priority
			Flow mgd	BOD ₅	SS	NH ₃	DO mg/l	Other	
SB-01									
270	BARTON DISTILLERY	76.73	0.4600	10/38.36	15/ 57.55	1/ 3.836	8		639.2
	Bardstown Amphitheater	0.33	0.002	20/ 0.334	30/ 0.500	15/ 0.250	4		639.2
102	BARDSTOWN	125.10	0.750	10/62.550	15/93.830	1/ 6.255	8		1,461.0
271	HEAVEN HILL DISTILLERY	16.68	0.100	10/ 8.340	15/ 12.51	1/ 0.834	8		639.2
	Humble Oil Service Station, US 31E	0.17	0.001	20/ 0.334	30/ 0.500	15/ 0.250	4		639.2
SB-02									
	Mackville Elem. Sch.	0.83	0.005	10/ 0.417	15/ 0.626	1/ 0.042	8		7.3
	Lincoln Homestead State Pk.	0.50	0.003	10/ 0.250	15/ 0.375	1/ 0.025	8		7.3
	Washington Elem. Sch.	0.83	0.005	10/ 0.417	15/ 0.626	1/ 0.042	8		7.3
SB-03									
	Loretto Motherhouse Nerinx	3.34	0.020	10/ 1.668	15/ 2.502	1/ 0.167	8		301.8
	Star Hill Distillery	5.84	0.035	10/ 2.919	15/ 4.379	1/ 0.292	8		301.8
108	LEBANON	166.80	1.000	10/83.400	15/125.100	1/ 8.340	8		777.0
SB-04									
	St. Catherine of Siena	12.26	0.015	20/ 2.502	30/ 3.753	15/ 1.877	8		173.2
	Holy Trinity School	1.63	0.002	20/ 0.334	30/ 0.500	15/ 0.250	4		173.2
	Marion County High Sch.	13.08	0.016	20/ 2.669	30/ 4.003	15/ 2.002	8		173.2
101	SPRINGFIELD	261.54	0.320	20/53.380	30/ 80.060	15/40.030	8		496.0
	Armour Company	8.17	0.010	20/ 1.668	30/ 2.502	15/ 1.251	8		173.2
SB-05									
	Calvary Christian Church	0.67	0.004	10/ 0.334	15/ 0.500	1/ 0.033	8		29.0
	Calvary Christian Youth Camp	0.67	0.004	10/ 0.334	15/ 0.500	1/ 0.033	8		29.0
	Perryville Battlefield State Park	0.33	0.002	20/ 0.334	30/ 0.500	15/ 0.250	4		89.0
114	PERRYVILLE	16.68	0.100	10/ 8.340	15/ 12.510	1/ 0.834	8		106.0
	Perryville School	1.00	0.066	10/ 0.500	15/ 0.751	1/ 0.050	8		29.0
SB-06									
	None								1.6

Exhibit B-5.5t WASTELOAD ALLOCATIONS AND PRIORITY FOR AREA 5, 1980
(SS-01, SS-02, SS-03, SS-04, SS-05, SS-06, SS-07, SS-08)

Code Number	Facility	TMDL	Proposed Effluent Characteristics (mg/l / #/day)						Grant or Seg. Priority
			Flow mgd	BOD ₅	SS	NH ₃	DO mg/l	Other	
SS-01	None								0.1
SS-02									
113	SHEPHERDSVILLE	50.04	0.300	10/25.020	15/ 37.530	1/ 2.502	8		387.0
SS-03									
241	J.B. Beam	171.80	1.030	10/85.9001	15/128.900	1/ 8.590	8		92.9
SS-04	None								3.9
SS-05									
	Joseph E. Seagram	8.34	0.050	10/ 4.170	15/ 6.255	1/ 0.417	8		4.8
	Nazareth Academy	1.67	0.010	10/ 0.834	15/ 1.251	1/ 0.083	8		4.8
	Nelson Co. Vocational Sch.	2.50	0.015	10/ 1.251	15/ 1.877	1/ 0.125	8		4.8
SS-06									
112	BLOOMFIELD	103.83	0.150	10/12.510	15/ 18.770	15/ 18.770	8		80.0
	Central Ky. Toll Plaza	0.69	0.001	10/ 0.083	15/ 0.125	15/ 0.125	8		29.9
SS-07									
111	TAYLORSVILLE	16.68	0.100	10/ 8.340	15/ 12.510	1/ 0.834	8		90.0
	Good News Club	0.50	0.003	10/ 0.250	15/ 0.357	1/ 0.025	8		27.6
SS-08									
	Simpsonville School	1.50	0.009	10/ 0.751	15/ 1.126	1/ 0.075	8		1.1
	R. Dunaway Residence	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		1.1
	State Hwy. Garage	0.83	0.005	10/ 0.417	15/ 0.626	1/ 0.042	8		1.1

Exhibit B-6.5t WASTELOAD ALLOCATIONS AND PRIORITY FOR AREA 6, 1980
(SS-09, SS-10, SS-11, SS-12)

Code Number	Facility	TMDL	Proposed Effluent Characteristics (mg/l / #/day)						Grant or Seg. Priority
			Flow mgd	BOD ₅	SS	NH ₃	DO mg/l	Other	
SS-09									
	Westbound Rest Area I-64	0.50	0.003	10/ 2.250	15/ 0.375	1/ 0.025	8		58.3
	Beef & Boards	0.83	0.005	10/ 0.417	15/ 0.626	1/ 0.042	8		58.3
	Purnell Sausage Co.	3.34	0.020	10/ 1.668	15/ 2.502	1/ 0.167	8		58.3
	Sanders Cafe	1.00	0.006	10/ 0.500	15/ 0.751	1/ 0.050	8		58.3
110	EMINENCE	28.36	0.170	10/ 14.180	15/ 21.270	1/ 1.418	8		166.0
SS-10									
	None								
SS-11									
	Hayes Farm Center	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		151.2
	Shelby Motel & Jerry's Restaurant	3.34	0.020	10/ 1.668	15/ 2.502	1/ 0.167	8		151.2
	Ken Acres Subdivision	3.34	0.020	10/ 1.668	15/ 2.502	1/ 0.167	8		151.2
	Maintenance & Traffic Bldg.	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		151.2
	Shelby County Industrial Foundation	2.50	0.015	10/ 1.251	15/ 1.877	1/ 0.125	8		151.2
107	SHELBYVILLE	220.18	1.320	10/110.100	15/165.100	1/ 11.01	8		262.0
	Marshall Trailer Court	1.67	0.010	10/ 0.834	15/ 1.251	1/ 0.083	8		151.2
	Coca Cola Shelbyville	1.67	0.010	10/ 0.834	15/ 1.251	1/ 0.083	8		151.2
	Town-N-Country	2.17	0.013	10/ 1.084	15/ 1.626	1/ 0.108	8		151.2
	Hazel Lawn Subdivision	1.67	0.010	10/ 0.834	15/ 1.251	1/ 0.083	8		151.2
	Upper Elem. School	1.67	0.010	10/ 0.834	15/ 1.125	1/ 0.083	8		151.2
	Old Mason's Home	1.67	0.010	10/ 0.834	15/ 1.125	1/ 0.083	8		151.2
	John Waits Apt.	2.00	0.012	10/ 1.001	15/ 1.501	1/ 0.100	8		151.2
	Baker Nursing Home	0.83	0.005	10/ 0.417	15/ 0.626	1/ 0.042	8		151.2
	Shelby Co. High School	1.83	0.008	10/ 0.667	15/ 1.001	1/ 0.067	8		151.2
	Cedarmore Baptist Assembly	0.17	0.001	20/ 0.167	20/ 0.250	15/ 0.125	4		151.2
SS-12									
	Finchville Elem. School	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		5.0

Exhibit B-7.5t WASTELoad ALLOCATIONS AND PRIORITY FOR AREA 7, 1980
(SS-13, SS-14, SS-15, SS-16, SS-17, SS-18)

Code Number	Facility	TMDL	Proposed Effluent Characteristics (mg/l / #/day)						Grant or Seg. Priority
			Flow mgd	BOD ₅	SS	NH ₃	DO mg/l	Other	
SS-13	None								3.7
SS-14	Western School	0.50	0.003	10/ 0.250	15/ 0.375	1/ 0.025	8		2.1
SS-15	Florida Tile Company	0.83	0.005	10/ 0.417	15/ 0.626	1/ 0.042	8		126.4
	Florida Tile Company	1.67	0.010	10/ 0.834	15/ 1.251	1/ 0.083	8		126.4
	Watts & Durr Oil Co.	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		126.4
104	LAWRENCEBURG	83.40	0.500	10/41.700	15/62.550	1/ 4.170	8		342.0
SS-16	Paul D. Shryock	0.17	0.001	20/ 0.167	30/ 0.1250	15/ 0.125	4		0.8
	Glenview Subdivision	1.33	0.008	10/ 0.667	15/ 1.001	1/ 0.067	8		0.8
265	JOSEPH E. SEAGRAM LAWRENCEBURG	29.19	0.175	10/14.500	15/21.900	1/ 1.460	8		0.8
SS-17	Brentwood Subdivision	4.17	0.025	10/ 2.085	15/ 3.128	1/ 0.209	8		253.0
	HALL-MACK CO.	40.03	0.240	10/20.020	15/30.020	1/ 2.02	8		253.0
103	HARRODSBURG	108.42	0.650	10/54.210	15/81.320	1/ 5.42	8		557.0
	Clark & Keller Oil Co.	0.83	0.005	10/ 0.417	15/ 0.626	1/ 0.042	8		253.0
	Clark & Keller Oil Serv.	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		253.0
	Bright Leaf Estates	3.34	0.020	10/ 1.668	15/ 2.502	1/ 0.167	8		253.0
	Bright Leaf Motel	0.17	0.001	20/ 0.167	30/ 0.250	15/ 0.125	4		253.0
SS-18	None								0.5

Exhibit B-1.6t MUNICIPAL NEEDS (AREA 1)

Code Number	Facility	1980/1995 Treatment Needs	Disposal Needs ¹ 1995	Cost Million \$	Compliance Goals
<u>SP-01</u>	No municipal sources	-	-	-	-
<u>SP-02</u>					
237	Hollyvilla	T4B/West Co. STP	0	NG	June, 1977
228	Minor Lane Heights	To West Co. STP	0	0.781(I/I,I)	-
119	Hollow Creek	To West Co. STP	0	NG	-
229	Silver Heights S.C.D.	To West Co. STP	0	0.120(I/I,I)	-
212	Shady Villa S.C.D.	T4B/West Co. STP	0	NG	June, 1977
233	Maple Grove S.C.D.	To West Co. STP	0	0.097(I/I)	-
213	Poplar Level S.C.D.	To West Co. STP	0	0	-
219	Waterfern Hills - Fern Creek Garden S.C.D.	To West Co. STP	0	0	-
115	Okolona	To West Co. STP	0	3.498(I/I,I)	-
<u>SF-01</u>					
116	Mt. Washington	T4B/T4B	58	1.924	When constructed
105	Jeffersontown	T4B/West Co. STP	196	3.279	June, 1977
260	Woodland Hills	Morris Forman/	0	0.066(I/I)	-
<u>SF-02</u>	No municipal sources	-	-	-	-
<u>SF-03</u>					
118	Smithfield	T4B/T4B	2	0.247	When constructed
<u>SF-04</u>	No municipal sources	-	-	-	-

Exhibit B-2.6t MUNICIPAL NEEDS (AREA 2)

Code Number	Facility	1980/1995 Treatment Needs	Disposal Needs ¹ 1995	Cost Million \$	Compliance Goals
<u>SM-01</u> 117	West Point	T4B/T4B	22	1.525	When constructed
<u>SM-02</u> 106	Radcliff	T4B/T4B	100	3.312	June, 1977
<u>SR-01</u> 109	Lebanon Junction	T4B/T4B	24	0.944	June, 1977
<u>SR-02</u>	No municipal sources	-	-	-	-
<u>SR-03</u> 120 122	Loretto New Haven	T4B/T4B T4B/T4B	12 12	0.971 0.967	When constructed When constructed

Exhibit B-3.6t MUNICIPAL NEEDS (AREA 3)

Code Number	Facility	1980/1995 Treatment Needs	Disposal Needs ¹ 1995	Cost Million \$	Compliance Goals
<u>SR-04</u>					
126	Floydsburg	T4B/T4B	3	0.153	When constructed
<u>SR-05</u>					
125	Bradfordsville	T4B/T4B	7	0.480	When constructed

Exhibit B-4.6t MUNICIPAL NEEDS (AREA 4)

Code Number	Facility	1980/1995 Treatment Needs	Disposal Needs ¹ 1995	Cost Million \$	Compliance Goals
<u>SB-01</u> 102	Bardstown	T4B/T4B	86	1.795	June, 1977
<u>SB-02</u> 124	Willisburg	T4B/T4B	4	0.364	When constructed
<u>SB-03</u> 108	Lebanon	T4B/T4B	7	0.936	June, 1977
<u>SB-04</u> 101	Springfield	T2B/T2B	40	0.759	June, 1977
<u>SB-05</u> 114	Perryville	T4B/T4B	10	0.665	June, 1977

Exhibit B-5.6t MUNICIPAL NEEDS (AREA 5)

Code Number	Facility	1980/1995 Treatment Needs	Disposal Needs ¹ 1995	Cost Million \$	Compliance Goals
<u>SS-1</u>	No municipal sources	-	-	-	-
<u>SS-2</u> 113	Shepherdsville	T4B/T4B	120	3.959	June, 1977
<u>SS-3</u>	No municipal sources	-	-	-	-
<u>SS-4</u>	No municipal sources	-	-	-	-
<u>SS-5</u> 121	Fairfield	T4B/T4B	2	0.492	When constructed
<u>SS-6</u> 112	Bloomfield	T3B/T3B	13	0.416	June, 1977
<u>SS-7</u>	No municipal sources	-	-	-	-
<u>SS-8</u>	No municipal sources	-	-	-	-

Exhibit B-6.6t MUNICIPAL NEEDS (AREA 6)

Code Number	Facility	1980/1995 Treatment Needs	Disposal Needs ¹ 1995	Cost Million \$	Compliance Goals
<u>SS-9</u> 110 123	Eminence Simpsonville	T4B/T4B T4B/T4B	30 8	0.679 1.310	June, 1977 When constructed
<u>SS-10</u>	No municipal sources	-	-	-	-
<u>SS-11</u> 107	Shelbyville	T4B/T4B	87	1.718	June, 1977
<u>SS-12</u> 111	Taylorsville	T4B/T4B	18	0.450	June, 1977

Exhibit B-7.6t MUNICIPAL NEEDS (AREA 7)

Code Number	Facility	1980/1995 Treatment Needs	Disposal Needs ¹ 1995	Cost Million \$	Compliance Goals
<u>SS-13</u>	No municipal sources	-	-	-	-
<u>SS-14</u>	No municipal sources	-	-	-	-
<u>SS-15</u> 104	Lawrenceburg	T4B/T4B	64	1.125	June, 1977
<u>SS-16</u>	No municipal sources	-	-	-	-
<u>SS-17</u> 103	Harrodsburg	T4B/T4B	113	2.590	June, 1977
<u>SS-18</u>	No municipal sources	-	-	-	-

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